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V. 21-7

# GLEANINGS

A JOURNAL DEVOTED  
TO BEES  
AND HONEY  
AND HOME  
INTERESTS.

## BEE CULTURE

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### STRAY STRAWS

FROM DR. C. C. MILLER.

AT ROLL-CALL, March 8, 94 per cent of my bees were alive.

H. REEPEEN, the versatile item-gatherer for the *Centralblatt*, is now Reepen items for A. B. J. He's a good reaper.

I PROTEST against your calling "W. P." an "old standby," as you do on page 227. He's not "old," and he doesn't "stand by," he's always on the jump.

SORRY you didn't have any bees in cellar this winter, Ernest. If that cellar was the only one "available for vegetables," why wasn't the other part of the cellar available for bees?

BEE-PARALYSIS may be cured in most cases, according to Jennie Atchley, in A. B. J., by putting the whole colony on new combs or foundation, and giving sugar syrup or new honey.

A PRIME SWARM takes with it the old queen. Now, suppose, just before the swarm is ready to issue, the old queen is destroyed, and a swarm issues with the first maturing virgin, is that a prime or an after-swarm?

MELILOT gets a very hearty condemnation from C. F. Muth, in the *Guide*. He thinks it has run out white clover in his locality, and says, "The English sparrow is a daisy compared to it." What do others say?

THAT MAN YORK has a pretty big contract on his hands to get up a bee-keepers' picture and biography every week in the year, but I think he'll make it in good shape, for he's got through a fourth of the year without a break.

WHY WOULDN'T it be a good plan to have brood-frames a little shorter at bottom than at top? It would make them easier to lift out, and bees will allow a greater space at lower than upper part without bulging comb in the space.

NON-SWARMING PLANS seem coming to the front, disputing the field with self-hivers. B. Taylor gives a plan in *Review*, keeping two colonies side by side, changing bees from one to the other every six days and cutting out queen-cells.

IN REPLY to your question on p. 227, friend Root, I have the honor to inform you that the straw in question could not possibly be the one that broke the camel's back, for the one you mention is the *second* straw, while it was the *last* straw that broke the camel's back.

IN VIRGINIA, winter losses are reported at 50 per cent, with bees flying till Christmas, and

occasional flights in February. Doolittle raises the conundrum. "Why is a winter so fatal in Virginia, that would be called mild and favorable in New York?"

ARTIFICIAL INCREASE. I suspect, is more generally practiced than friend Hewes thinks (see p. 221), although it is little discussed, perhaps, because few are interested in any new modes of increase. Not one in fifty of my increase is by natural swarming.

HONEY ON A STICK is a new thing to you, says a foot-note on p. 222. You've forgotten. Who was it at fairs cut sections diagonally in four pieces, and then sold it.

"Honey on a stick,  
Five cents a lick!"

LET US TRY to encourage correctness in bee-terms. I'm glad to see that, gradually, it is getting less common to call a worker "he," but it is still common to talk about a queen *leading* out a swarm. Even so correct a work as the A B C perpetuates that error.

TOP-BARS, a foot-note on p. 214 says, are practically  $\frac{1}{8}$  thick, as now made at Medina. Beg your pardon; for strength they may be, but not as preventers of burr-combs. That bead comb-guide doesn't pay for the thickness cut away in making it—at least, some of us think so.

WILL GRADING come up again in Chicago? Or isn't it any use? The Washington system doesn't seem to be used any more than the previous ones. It's several months old, but it doesn't seem to be used to any alarming extent in quotations, except that the *Review* uses it "as far as possible."

SULPHUR FUMES, as urged by C. F. Muth, in *Guide*, are heavy, falling to the floor, so he strongly urges that combs to be brimstoned should be placed near the floor. Brimstone's cheap, however, and in some cases it will be better to use so much that there will be no comfortable place for worms even close to the ceiling.

THE *Nebraska Bee-keeper* objects to Kretchmer's feeding by tipping back the hive and pouring feed on a tight bottom-board, and asks how he would like to eat soup off the floor. The cases are hardly parallel, Bro. Stilson, but I quit that way of feeding because, for some reason, I found too many dead bees on the ground after feeding.

THE STING of a bee is a modified ovipositor, says the dictionary. If so, did the queen originally have two ovipositors, one of which was modified into a sting? And can she be bred back into her original condition so as to lay double and sting none? Or is there danger that



her present ovipositor will be modified into another sting, so she'll sting double and lay none? Prof. Cook, is the dictionary right?

AS A NEW WAY of introducing queens, even immediately after removing the old one, a German journal instructs to dip the new queen in liquid honey and then, without further ado, to drop her among the bees. If I am not much mistaken, that was a common way years ago, but fell into disrepute for some reason, probably because too many such queens were killed by the bees.

FRIEND ROOT, what's the matter with you and that White man on p. 222? Why, you talk almost as if there was something wrong in distilleries. Don't you know that distilleries are honorable and according to law? You can "vehemently protest" till doomsday, and it won't change the law so long as you are accommodating enough to vote for legislators who will continue the law.

### LANGSTROTH'S REMINISCENCES.

INTERESTING INCIDENTS OF SAMUEL WAGNER,  
FOUNDER OF THE AMERICAN BEE JOURNAL.

In the first edition of my book great prominence was given to utilizing every good piece of comb, and directions were furnished for draining the honey from the combs. This was found to be such very tedious and imperfect work that I studied much how to devise some way by which the honey could be more readily extracted. Often, when visiting a brother-in-law who was steward of the Pennsylvania Hospital, I was less than a minute's walk from a centrifugal clothes-wringer, a glance at which might have enabled me to solve the problem; or had any thing, in this connection, called my attention to the water flying from a grindstone, or the mud from a carriage-wheel, the idea of using centrifugal force would, in all probability, have suggested itself. Further, to show my blindness on this point I was actually using centrifugal force for emptying *some* of the contents of combs, before the advent of the honey-extractor. When I wished to get rid of partly grown larvae I used to fill both sides of a comb, containing drones, with water; and then by a *swift* motion of my outstretched arm, first in one direction and then in another, I flirted out the water and with it went all the larvae. While thus emptying some of the contents of the combs by centrifugal force I yet failed absolutely to take the final step by contriving some way to empty the honey by the same force.

The actual application of this principle for emptying honey was, however, reserved for a more fortunate man. An officer in the Austrian army, by the name of Hruschka, gave a piece of comb, with honey in uncapped cells, to his little son, who put it into a tin bucket which he was playfully whirling about his head with a string, and, thus all unconscious of the great results to follow, gave birth to the honey-emptier. His father, noticing that some of the honey had been thrown out of the open cells, saw at once the importance of the idea, and made a machine, a honey-emptying machine, which ought never to have been called by any other name than a Hruschka. Shall those of who know so well what was needed, and to some of whom the slightest hint might have sufficed for its invention, be mean enough to try to belittle the merits of the man who actually did the thing? So long as the bee-gathers its precious sweets, his name will be held in grateful remembrance; for the practical movable frame, without this invention, would have fallen very far short of what it now accomplishes.

On page 80 of my first edition may be found these words:

Ingenuous efforts have been made of late years to construct *artificial* honey-combs of porcelain, to be used for *feeding* bees. No one, to my knowledge, has ever attempted to imitate the delicate mechanism of the bee so closely as to construct artificial combs for the ordinary uses of the hive; although for a long time I have entertained the idea as very desirable, and yet as barely possible. I am at present engaged in a course of experiments on this subject, the results of which in due time I shall communicate to the public.

While I was engaged in the experiments alluded to, Mr. Samuel Wagner, with whom I was then in constant correspondence, wrote to me that he had an invention in his mind which he thought would largely increase the value of my movable frames. Suspecting that we were on the same track, and learning, after informing him of my plans, that he had made some progress in the matter, and that his experiments were begun prior to mine, I at once refigured the whole matter to him. If, like Mr. A. I. Root, to whose inventive mind modern bee-keeping owes so much, Mr. Wagner could have associated himself with a man of such rare mechanical ingenuity as Mr. A. Washburn, he would probably have perfected his invention of artificial comb foundation, not only before Mr. Root's grand success with his rollers, but before any thing had been attempted in this line by European bee-keepers.

Perhaps no better place can be found to pay a deserved tribute to the memory of the man who did so much for the promotion of American apiculture. I have already mentioned how I obtained from Mr. Wagner my first knowledge of Dzierzon; and the following extract from his letter to me (see p. 18 of the 1853 edition) will show how he first became acquainted with my invention.

YORK, PA., Dec. 24, 1852.

Dear Sir:—The Dzierzon theory, and the system of bee-management based thereon, were originally promulgated, *hypothetically*, in the "*Eichstadt Bienenzeitung*," or bee-journal, in 1845, and at once arrested my attention. Subsequently when, in 1848, at the instance of the Prussian government, the Rev. Mr. Dzierzon published his "*Theory and Practice of Bee Culture*," I imported a copy, which reached me in 1849, and which I translated prior to January, 1850. Before the translation was completed I received a visit from my friend, the Rev. Dr. Berg, of Philadelphia, and in the course of conversation on bee-keeping I mentioned to him the Dzierzon theory and system as one which I regarded as new and very superior, though I had had no opportunity for testing it practically. In February following, when in Philadelphia, I left with him the translation in manuscript, up to which period I doubt whether any other person in this country had any knowledge of Mr. Dzierzon. Except to Dr. Berg I had never mentioned it to any one, save in very general terms.

In September, 1851, Dr. Berg again visited York, and stated to me your investigations, discoveries, and inventions. From the account Dr. Berg gave me, I felt assured that you had devised substantially the *same system* as that so successfully pursued by Mr. Dzierzon; but how far *your hive* resembled his I was unable to judge from description alone. I inferred, however, several points of difference. The coincidence as to system, and the principles on which it was evidently founded, struck me as exceedingly singular and interesting, because I felt confident that you had no more knowledge of Mr. Dzierzon and his labors, before Dr. Berg mentioned him and his book to you, than Mr. Dzierzon had of you. These circumstances made me very anxious to examine your hives, and induced me to visit your apiary in West Philadelphia last August. In the absence of the keeper, as I informed you, I took the liberty to explore the premises thoroughly, opening and inspecting a number of the hives, and noticing the internal arrangements of the parts. The result was, I came away convinced that, though your system was based on the same principles as Dzierzon's, yet your hive was almost totally different from his in construction and arrangement; that, while the same ob-

jects *substantially* are attained by each, your hive is more simple, more convenient, and much better adapted for general introduction and use, since the mode of using it can be more easily taught. Of its ultimate and triumphant success I have no doubt.

It, in fact, combines all the good qualities which a hive ought to possess, while it is free from the complication, clumsiness, *cum whims*, and decidedly objectionable features which characterize most of the inventions which profess to be at all superior to the simple box or the common chamber hive. . .

Very truly yours,

Rev. L. L. Langstroth.

SAMUEL WAGNER.

As soon as Mr. Wagner became acquainted with my hive, instead of publishing his translation of Dzierzon, for which he was then in negotiation, he urged me to write a book which he believed would, with my movable frame, do more for the promotion of American bee culture than any thing from abroad. Being an excellent German scholar, and very familiar with both ancient and modern apiculture, more especially with all that could be learned from German sources, he placed all his varied information at my command absolutely, without money and without price, and labored with untiring zeal to make my book and hive a success. Seldom do we find such an admirable example of rare magnanimity and disinterestedness.

Visiting him at intervals, and corresponding with him frequently, he kept me posted up in every thing occurring in Germany which was of interest in our favorite pursuit. His large library, so full especially in the German literature of bee-keeping, was thoroughly at his command, and he could turn at once to book or periodical for information on any point that might come up for discussion.

L. L. LANGSTROTH.

*Continued.*

#### WHAT SIZE OF FRAME SHALL WE USE IN QUEEN-REARING?

DOOLITTLE PREFERS THE REGULAR ONES.

A correspondent writes: "I am thinking of going into the queen business, in a limited way, this year; and, if prosperous, increase the business till the most of my time will be employed in it. What size of frame would you use in the nucleus hives—small ones or sections, as recommended by Pratt and others, or those of the same size I am using in my regular hives?"

After years of trial along the line of which is the best size of frame to use in queen-rearing, I have failed to find any special advantage in a small frame, while with me there are many disadvantages; therefore I have come to the conclusion that it is the part of wisdom to use the same size of frame in the nucleus hive that we are using in the hive which we have adopted for general use in the apiary. As we are used to handling these frames we can handle them more rapidly, and with less injury to the bees and combs, than we can those of an odd size, thus saving time in our work, and avoiding that irritation to the bees which causes them to annoy their keeper by following him around and trying to sting him and every thing else that happens near the hives. With me it is much easier and more expeditious to handle one or two full-sized frames than it is three or four small ones. Then the bees work more to our profit where the regular size of frame is used. If any comb is built by the nuclei it is in just the frames we want it, and always of the size of cells we wish, as these small colonies build only worker comb, where the young queen is left with them long enough for them to build comb. Where I have had combs in which the mice have gnawed holes, or the bees have made holes in them by cutting out moldy pollen, or in which there hap-

pens to be drone comb of more or less amount which I have removed, I always give them to these nuclei when forming them, and, as soon as the young queen commences to lay, the bees will commence to build comb and repair these places if honey is coming in from the fields, or if fed when no honey is to be obtained. By leaving the young queen with them the length of time required, we have our combs all made as good as those built out on foundation, save the cost of foundation and the fuss of putting it in the frames, while such mutilated combs are just as good to form nuclei with as whole combs. By a little looking-over of our combs each year, sorting out all those not being quite up to the standard, and using them as above, all the combs in the apiary can be kept in perfect order for all time, unless the cells should become so filled with cocoons as to become too small to raise bees in, a thing which has not happened in my apiary during the past twenty-four years.

Again, if we use the regular size of frames, all the honey stored in these will be right where it will be of use to the bees of any colony in the apiary, either for spring, summer, or winter, so that we do not have to store away a lot of combs and honey at any time of year because it is not in shape for use. In connection with the regular-sized frame I would always use the regular-sized hive for nuclei. Why? Because in this way we have nothing which will be a loss to us should we not be prosperous in the business, as may happen, as is hinted at by our correspondent when he says, "If prosperous," etc.; and by using the regular hive we are ready to unite for winter on any stand we desire, without changing hives or any thing of the kind, or can build up any nucleus into a full colony at any time.

But, as I consider it, the greatest advantage in the full or regular-sized hive comes in not having our nuclei robbed out occasionally, as is almost sure to happen with some of the weaker ones, where small hives are used. Such robbing causes a general demoralization of the whole apiary, often to such an extent that the beekeeper almost wishes he had never known such a thing as a bee. By using the regular-sized hive, and placing the nucleus on one side of it, while the entrance is at the other side, no nucleus that is large enough to hold a queen to advantage will ever be robbed out, and smaller than these should not be used. To help the reader to understand better, we will suppose that the regular hive is twelve inches wide inside, and that the entrance used is cut from the bottom of the front board the whole length of it, and that the hive fronts south. Form your nucleus on the east side of the hive, using two combs; and next these combs draw up the division-board or dummy, which should allow the bees to run under the bottom of the same. Now close up all of the entrance except one inch in length at the west side of the hive, and you will have it as I use them, and I have not had a single nucleus robbed since I found out this plan.

Now, suppose I wish a nucleus in the next hive, on the same row in the apiary. In this hive I place the two frames and dummy next to the west side of the hive, while the entrance is on the east side, the conditions being the same as relating to the prevention of robbing, while the doorway to each hive is not at all similar. The next hive is fixed like the first, the next like the second, and so on, to the end of the row. In this way the young bees do not mix; and in returning from their wedding-flight, no queens are lost by entering the wrong hive, as used to happen with me when I used an entrance in the same place with all the hives in the apiary. I consider this far preferable to painting the fronts of the hives of different colors, laying sticks of wood about the hives, etc., as has been



recommended so many times in the past. If the nucleus becomes stronger than is profitable on the two frames, move out the division-board and give them an empty frame with a starter of comb foundation, and see how quick they will fill it with beautiful worker comb; if too weak for the two combs, take away one and draw up the division-board, thus always working to the best advantage, and making every thing done by all count on the right side of the ledger page.

As this article is already long enough, I will tell some other time how I keep the nuclei in a hive, how I double them for winter, etc.

G. M. DOOLITTLE.

Borodino, N. Y., March 17.

[We experimented somewhat with small frames for queen-rearing, and, after taking every thing into consideration, we came to the conclusion that the advantages are by a long way emphatically in favor of the regulation frame used in the apiary. Of all the nuisances in the yard it, is to have two or more sizes of frames. Doolittle's points are all well taken, and if there is any subject upon which he can speak with assurance it is this one.]

### ITEMS AND QUERIES.

#### HOFFMAN FRAMES; SHALLOW HIVES, ETC.

Bees are wintering badly, and suffering from disease, mainly, I think, on account of the cold unfavorable autumn, which confined them too closely to their hives.

I may not understand the new Crane smoker from the description in GLEANINGS; but if I do, it seems to me you might remedy the difficulty of swelling valves by immersing them, or, if need be, all the woodwork, for a minute or two, in boiling or nearly boiling linseed oil, thus making them moisture-proof; or shellac them well.

I am also informed that one of the greatest difficulties connected with the regular Hoffman frame results from the swelling of the close ends of the frame-tops, and the closed upper ends of the uprights during damp weather, and from moisture absorbed in wintering. Now, could not that difficulty also be remedied by dipping the frame-tops, or upper corners of the frames, for a few moments in this hot linseed oil?

Mr. Doolittle tells us of losses from wintering bees under the snow. I once tried that, and lost every colony of bees I possessed; and if any one wishes to get rid of an apiary "with neatness and dispatch," I can recommend this plan for doing it. And I once lost my whole apiary by wintering them in a cellar which proved too cold.

I wish to ask a question, to which, in all my 30 years' apiarian experience, I have never yet received a satisfactory answer. It is this: In the spring I find colony No. 1 very weak. No. 10 is very strong, and could spare some bees to aid No. 1. Now, the question is, how to give No. 1 a share of the bees (old bees and no brood), from No. 10, without reversing hives and without removing No. 1 from the home.

For two years I have been experimenting with a few hives, with L. frame but 7 inches deep and 10 frames to the hive. I am pleased with the hive, both for summer and winter; but my experiments are not conclusive, owing to the fact that both years were very unfavorable honey years.

I am rather surprised to learn to what extent, and for how long a time, shallow hives have been in use. I was not ignorant of the fact of their use to some extent, for 30 years ago I had

in my apiary a specimen hive made of fencing boards 6 inches wide; and the hives, or sections of the hive, 12 inches square. It was as truly a divisible hive as the Heddon; but it had only top-bars instead of frames. The *modus operandi* was to raise up the hive and add these sections from below as required, and in the autumn remove sections full of surplus honey from the top. The top of this little hive was covered with a pane of glass 12 inches square, with a board about 16 in. square laid over the glass, and through this pane of glass I first saw a queen.

Feeling much interested in Carniolan bees, although I have never tried them, I was deeply interested in Mr. F. Benton's paper read before the National Association at Washington; and wishing to know more about them, and about their natural habitat, Carniola, that I might the better judge of their hardiness, I took the liberty of writing to Mr. Benton for some information upon these subjects, endeavoring to couch my queries in such language as would admit of brief replies. But instead of taking advantage of this fact, Mr. Benton very kindly wrote a reply so generous in length, so interesting and instructive, that I feel sure you will agree with me that it is much too good to be limited to an audience of one. Hence I inclose it herewith; and should you not find room for both, then please consign this to the wastebasket and give us Mr. Benton's.

Excelsior, Minn.

J. W. MURRAY.

[We have already arranged the automatic check-valve of the Crane smoker so that it will give no trouble from dampness. With regard to the Hoffman frames, there need be no difficulty from wedging up tight, providing the wedge itself is inserted midway between the two ends of the division-board or follower. As the latter forms a sort of spring pressure against the sides of the Hoffman frames, no trouble will result from swelling. As to how to get the bees from a strong colony into the weaker one and make them stay, we would suggest that, if you place a large portion from the former into the latter, a large enough share will stay, although, of course, some of them will go back. If this is done before the bees have much of a chance for flight in the spring, the percentage that will stay in new quarters will be still larger.

We were particularly interested in the shallow brood-chambers, referred to by Mr. Benton in his address at Washington; and it was our purpose to get further facts from him. But, fortunately, you have secured just the information desired, and we are sure that it ought not to be confined to a single individual, when, in fact, the whole bee-keeping fraternity will be interested. We take pleasure in presenting it just as it came from Mr. Benton.]

### BEE-KEEPING IN CARNIOLA.

FULL PARTICULARS IN REGARD TO HOW THE SHALLOW BROOD-CHAMBERS ARE AND HAVE BEEN USED FOR CENTURIES IN THAT PROVINCE.

United States Department of Agriculture,  
Division of Entomology.

Mr. J. W. Murray:—Yours of the 23d has just been received. I take pleasure in furnishing the information asked for, and also in adding some other particulars that may be of use and interest to you.

The hive which, for several centuries, has been most commonly used in Carniola is about 6 inches deep (inside measurement), 36 inches from front to rear, and 12 inches wide, no

frames being used. These hives are placed in bee-houses, each tier of hives resting on separate stringers of its own so as to be removable, by sliding out at front or rear, without interfering with the others. There are generally six or eight tiers—often fifty hives in each tier. The rear end of each hive (occasionally the front end instead) is removable for the purpose of feeding, introducing queens, etc., while, to get at queen-cells, the bottom is taken off—the latter being commonly fastened by hand-made, wedge-shaped nails that are easily pulled. Frame-hives are not popular, the few bee-keepers who have tried them not having, except in rare instances, understood their advantages. But frames, when used, are mostly shallow—from 6 to 8 inches only in depth, and are placed crosswise of the hives, being removable from the rear end.

#### THE "SHAKE-OUT" FUNCTION AS PRACTICED BY THE NATIVE BEE-KEEPERS OF CARNIOLA.

There is in Carniola, on the whole, very little manipulation of combs or interference with the interior of the hives beyond the cleaning of the bottom-boards, feeding (which is diligently practiced), and the supplying occasionally of a queen or a queen-cell to a hive that has through accident become queenless. The native bee-keepers do not often have occasion to hunt out queens; but when they do (most of the hives, as already stated, being without frames), they can only remove the bottom-board and shake out the bees. They do this by main strength, taking hold of the box in the middle, and giving it several violent jerks downward. But as the main cluster of bees (especially in the fall, or in weak colonies, after-swarms, etc., or in such as have stored the rear end of the hive full of honey) is generally in the front end of the hive, I was able to adopt, and to show the native bee-keepers in many places, much to their delight, a far easier way; namely, the plan of holding the back part of the hive between my knees, while I grasped the sides about six inches from the front end and gave two or three quick downward jerks, each followed by a quicker upward motion, thus landing about all—oftentimes *all*—of the bees on the ground. In this way I often captured from these box hives, and caged in mailing-cages, 30 to 40 queens in two or three hours.

Migratory bee keeping is followed extensively in Carniola. Hives are taken part way up the mountain-sides to get the spring yield from heath blossoms (*Erica*), and to the plains for the buckwheat harvest. About 75 of the flat hives are loaded at one time on a swinging-platform wagon, and moved at night.

#### NATIVE HOME OF CARNIOLANS.

The Duchy of Carniola (*Herzogthum Krain*), as it is called, is a province about three-fourths (3857 sq. mi.) as large as Connecticut, situated in the southwestern part of the Austrian empire, where the Tyrolean Alps bend southward. The main railway line (*Suedbahn*) from Vienna to Trieste passes through the center of Carniola, and the *Rudolfsbahn*, following down the Save River from the northwest, joins the first-mentioned line at Laibach, the capital of the province, a city of about 27,000, situated near the center of the elevated plain which, sloping gradually to the southeast, constitutes the greater part of the surface of Carniola.

This plain is some 300 to 400 feet above the sea-level, in the southeast of Carniola, while at Laibach it is nearly 1000 feet above that level, and rises as one proceeds northward in the valley of the Save. The latter narrows rapidly, being bordered on the east and west by mountain-ranges—the Carnic Alps, whose peaks range from 2000 to nearly 10,000 feet in height,

the culmination being near the northwestern point of the province, whence the two ranges proceed, and where the Save enters by a narrow pass. As may be imagined, the winters, especially in the more elevated portions in the northwest, are rather long and generally severe. The snows are very deep in the mountains—a fall of three or four feet at a time frequently occurring. I have known the mercury to reach 20° below zero Fahrenheit. There is much humidity in the atmosphere, both winter and summer—largely, no doubt, because of the nearness of the region to the Mediterranean Sea, and in summer to the constantly melting glaciers of the mountains which feed many streams, and to frequent and often rather long-continued rains. The summers are, in fact, cool and moist, clouds are frequent, and the air is often cooled off very suddenly by winds laden with fog, or at least cold, which sweep down from the mountains. At such times—particularly in the spring, and again in August during the buckwheat harvest (it is always much cooler after Aug. 15th than before), the ground in front of hives of bees is often literally covered with the chilled workers, overtaken within the space of a few moments, when attempting to regain their hives. The race is very prolific, and recovers with great rapidity from such disasters, though, of course, when occurring at the opening of a given harvest the latter is not of much use so far as securing surplus honey is concerned.

#### BEE-HOUSES IN CARNIOLA.

The bee-houses are inclosed on three sides, and the hive-fronts fill out the fourth side. A space of about five feet is left at the rear of the hives, and a door opens at one end into this, while at the opposite end there is usually a window closed by a wooden shutter. The bees are wintered in these houses by stuffing hay, forest leaves, moss, or something similar, in between the tiers, of hives, at the ends of the tiers, above, below, and against the back ends of the hives, the material in this latter place being held in position by boards or quilts. During very severe weather, and also when bright sunlight might attract the bees out upon the snow, a wooden shutter, like a trap-door, is let down from above so as to close the whole front. But this does not fit very closely, being roughly made.

The sides of the hives touch each other. The tiers sometimes do, but usually each tier rests on pieces of scantling which run from one end of the bee-house to the other—one in front and one at the rear, so placed that the hives can be readily slid in free from each other, and so the fronts will just fill the space between the scantlings. Tops of hives are nailed on, except in the small number of instances in which frames are used in these long hives, when the tops are generally hinged. Occasionally surplus honey is obtained in caps such as farmers place on box-hives in this country, the cap, in this case, being placed over a hole in the top of the Carniolan hive the same as with us. The use of such a cap is exceptional, especially as the hive with cap occupies the place of two long flat hives. Most of the honey is obtained by "taking up" (sulphuring) a certain proportion of the colonies in the fall. Sometimes the cleaner, newer combs are placed by themselves and allowed to drain tolerably dry in a warm room, the product, of course, being similar to extracted honey. It is sold as drip honey (*Tropfenhonig*), while the most of the combs, having been crushed in casks or vats, are permitted to drain off a dark, rank, pollen-laden liquid which they use in baking honey-cakes in, in preparing various drinks, as well as to feed bees. In truth, it is fit for nothing but this



last use. Very little honey is eaten except as it is combined in different cakes, gingerbread, etc., and syrups are also unknown, as are buckwheat cakes, warm biscuit, etc.

Stimulative feeding is practiced in the spring quite early, with a view to getting early and frequent swarms. The honey (*Stamphönig*) used for this purpose contains much pollen, and is, therefore, better than cane sugar as a stimulus to brood-rearing. The number of stocks is usually trebled or quadrupled by August, and all are taken to the buckwheat fields of Central and South Carniola, where strong ones are generally able to acquire a weight of 60 or 70 pounds—bees, combs, honey, and pollen. But those sulphured, probably do not yield, on the average, more than a *third* of this, as all very light after-swarms are included in the condemned lots, since, of course, such would not winter. But after-swarms weighing (combs, bees, and honey) twelve to fifteen pounds, are frequently wintered. But those heaviest in the fall are, other things being equal (age and quality of queens, character of combs, populousness, etc.), the ones that, by all odds, winter best.

Naturally, where such a system of bee-keeping is followed, the extractor and sections being known to very few, and the popular idea being that honey could be harvested *only in the fall* after buckwheat had done, blossoming, it was an astonishing thing for some one to show a quantity of light-colored honey from locust-trees, from chestnut, or even the amber-colored honey from horse-chestnut and from pine-trees, all gathered and harvested before July. And the absence of the buckwheat flavor was considered remarkable, as *honey* without that was unknown, so to say. Nor was it clear why "my bees made honey" that was free from the rank flavor of pollen and much other material even less appetizing, which their crushed-comb product always had.

FRANK BENTON,  
Apiarist U. S. Dept. Agriculture.

### HINTS TO BEGINNERS.

#### HOW TO START; HOW TO WINTER; COMB HONEY, ETC.

*Dear Cousin Will:*—I am glad to learn that you are to have some bees. I think five colonies just about the right number to start with, as it will pay you to buy an extractor and some other conveniences for that number. Don't be in a hurry to move them home. Wait till it is warm enough so they can fly next day after moving. When it is warm enough so the bees work on the maple will be a good time. In the mean time you should get a good hand-book on bees, and post up. Root's A B C is the best thing for beginners that I know of. After you have read it through, don't lay it up and forget you have it. It should be your daily adviser. In my first season with five colonies my A B C book was consulted every day—yes, many times a day; and, as a result, I got \$130 for my crop, besides increasing the five to thirteen, all of which wintered well.

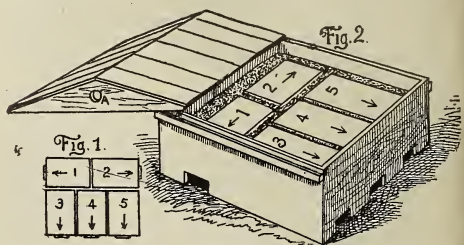
As it is only three or four miles, you can drive over with your spring wagon, toward night, when the bees are all in. Tack a strip of wire cloth over the entrance, and tie on the cover and bottom securely with tarred twine. Now drive up with your wagon, and, having previously found out which way the frames run in the hives, load them so the frames will be crosswise of the wagon; then the jerks will be endwise instead of sidewise. The jerks sidewise in a wagon are worse than endwise.

On arriving home you should place them where they are to stand. Make a separate

stand for each hive. An inverted box six inches deep and two or three inches longer than the hive, will do. Don't put them too near the driveway, nor in the calf-lot nor hen-park; and don't put them away out of sight behind some building, or back in the orchard.

A little shade is a good thing, but it should not be too dense. Have them in plain sight of the house, especially the kitchen and sitting-room windows.

To give them cheap protection from the sudden changes of temperature this spring, I would group them close together like the accompanying sketch; you can then make an



WINTER CASE FOR FIVE COLONIES.

outer rim of rough boards, two or three inches larger all around than the group, and pack with dry sawdust all around and in all crevices between the hives. A sort of mattress can be made of burlap stuffed with a mixture of sawdust and excelsior or straw. This will do to cover the tops of the hives, and you can make a good roof of shoe-boxes, which you can buy cheap.

When it is settled warm weather, along the last of May, this outside arrangement is to be taken off and the hives spread about a foot and a half apart.

But to return to the present. You want to order your supplies and implements right off.

In addition to your hand-book, already mentioned, you want, first, a good smoker. Bingham's is the best and most durable, but Root's can be had for less money, and is good for the price. Then get two yards of cotton tulle and make two veils. You will find directions in your book. Then get ten one-story hives, with wired frames and wood-zinc queen-excluders. You want 50 extra wired frames for your old hives, to use in the upper stories, or, if they will not fit, you must get 5 more hives. Now you want light brood foundation—enough to fill all these frames full, perhaps 15 lbs. You also want a wire-imbedder to fasten it in with.

Now, there are many implements for sale; but I will just mention those I think most useful. These are, first, a honey-extractor, and I recommend the new Cowan; also a wax-extractor. The cheap 35-cent one might do if you want to economize; and half a dozen each of West's cell-protectors and cages. Then you will want a comb-bucket. Tin is the best, but you can make one of wood, if well made with dripping-pan in the bottom.

To hold your honey, I know of nothing cheaper than large open tin cans. Mine hold 200 lbs. of honey, and nest like sap-pails. They cost me \$1.25 apiece. One of these does nicely for an uncapping-can. I have a large sieve made to just fit the top. The sides are tin, and the bottom is wire cloth, 4 meshes to the inch. A wooden rack is made to go across the top to hold the comb while uncapping. This lets the honey drain into the can below, while the cappings remain in the sieve.

You will want a knife with a slim blade, for



cutting out cells; a pair of small sharp scissors to clip queens' wings, and a pocket mirror, small enough to carry in your vest-pocket. This last is to help you find a bee when it is trying to sting around your neck, where you can't see without the glass.

I have said nothing about sections, because I would not advise you to try to raise comb honey the first year. I have mentioned nothing but what I think you need. Some other things might be added, but I don't advise you to spend a bit more on your bees than necessary until they repay you. You might save a little more by making your own hives. A neat light hive can be made from shoe-boxes. Get your frames from the factory first, and make your hives to fit.

But with all your economy, don't scrimp on foundation, and you will secure *straight worker combs on wired frames*; an investment you never will be sorry for as long as you work with the bees.

CHALON FOWLS.

Oberlin, O., Mar. 10.

[These instructions are plain and right to the point, and we are glad to add our indorsement to them.]

### A BACKWARD SPRING IN CALIFORNIA.

BEE-PARALYSIS CAUSED BY CONDITIONS OF CLIMATE RATHER THAN QUEENS.

We are having a cold, backward spring. While the roses are in bloom at Ventura, we can see the mountains back of the Matilija covered with snow, and that, too, only about fifteen or twenty miles off—more snow than we have had for a number of years. Bees are consuming great quantities of honey for brood-rearing; and if this weather continues much longer, many colonies of bees will perish for want of stores.

Bee-paralysis (nameless bee-disease) has its sway during this damp cold weather. Having considerable of it to contend with every season, I have noticed that it was worse during wet and foggy weather. Warm dry weather seems to be beneficial to the disease. Also when we have a good honey-flow from the sages, or best honey, it gradually disappears. I have been experimenting, by moving queens from afflicted colonies to an out-apiary, a few hundred feet greater elevation, nine miles further away from the coast; and the few queens moved thus far have produced good healthy bees. Apiaries located far away from the coast are the least troubled with it. As you advance toward the coast, the worse it is. This proves to me that it is not *all* caused by the queens; and I believe that the forage and weather have a great deal to do with it, although I have also cured it by queens raised from afflicted colonies and otherwise. My neighbor, Mr. Louis Walker, has lost a number of hundred colonies by this disease, and it nearly discouraged him from continuing in the business.

#### UNPROFITABLE FEEDING.

I have a number of friends who are feeding colonies in three-story hives, which is a great mistake for this time of the season in California. It is much better to contract the brood-chamber to one story, if possible, and save an expensive waste of honey.

Those having young drones flying should now commence preparing for young queens, to supersede all old queens, and have a surplus on hand at the proper time for young queenless swarms. Clean all bottom-boards and the frames, for easy and rapid manipulation, for these burr and brace combs are a hindrance to the greatest success.

#### HOW TO PREPARE BEES FOR MOVING.

For those who intend moving bees on lumber wagons, over rough roads, I would suggest putting from two to three feet of loose straw into the wagon-box; load all hives firmly together. Fill gunnie sacks half full of straw; cushion the outer edge between hives and side-board and spaces. Bind well, and a considerate driver is all that is required to make all go well.

Ventura, Cal., Mar. 14. M. H. MENDLESON.

### SIMPLE METHODS FOR DETECTING ADULTERATION IN HONEY AND WAX.

The following is a translation which we make from the *Bienenater*, a German bee-journal published in Vienna, Austria. While it shows a rather bad state of affairs on the other side of the pond, we are glad to note that it also offers a practical antidote for those evils. We would refer our readers to page 275 for an account of our own experiments with some honey which we had reason to think was not pure.

"Naught so fine has e'er been spun  
But came at last to light of sun."

Honey and wax, those costly natural products which for thousands of years have played so important a part in domestic economy, have, in later times, been greatly debased. In place of honey we have sugar; and in lieu of beeswax we have mineral wax—ceresin and ozokerite. Still, honey and wax are used for many purposes; and although the price of honey, as compared with that of other sweets, and the price of beeswax, as compared with that of mineral and vegetable wax, is but a trifle higher, yet it is now the case, as it has been for years past, that greedy men have adulterated the pure articles with an inferior product, and sold them as genuine. This adulteration of both of these products is already the regular business of so many, that there are in Switzerland several establishments now engaged in the production of artificial honey. This so-called Swiss honey contains but very little real honey, but mostly potato or starch syrup. These Swiss honeys are easily detected by very simple means. Last year, however, there started up in Germany a factory for the production of a new honey product called sugar honey, the same comparing perfectly, in its chemical features, with bee honey; and a skillful chemist (a sworn official expert) could not prove it to be mixed. We hope, however, that chemistry will ultimately be able to succeed in showing this product to be what it is. The other principal adulteration of honey consists in mixing pure honey with glucose (starch syrup, potato syrup, beet sugar, corn syrup), carrot juice, flour, glue, tragacanth, and water. Wax is mostly adulterated by adding tallow, ceresin, stearine, and vegetable oils.

It is possible for chemistry to prove adulterations in wax by employing very simple methods, as a general thing; but in some mixtures, however, the operation is very complicated, and on that account they are not touched on here.

#### HOW TO DETECT ADULTERATION IN HONEY.

1. *Adulteration with glucose.*—Take a tablespoonful of the honey to be tested; pour it into a small bottle; then add three spoonfuls of pure spirit, and shake the whole thoroughly together. In about a quarter of an hour there will form in the bottle a cloudy, whitish sediment; and from this, one may be sure the honey is adul-

terated. Conifer honey, as also that from fir and pine, yields a slight precipitate of dextrine. Dr. Haenle, of Strassburg, can, by means of the polariscope, very easily detect the adulteration of conifer honey by its right-handed rotation.

2. *Adulteration with flour, starch, etc.*—Pour into a tumbler, partly filled with honey, a few drops of the tincture of iodine, stirring it thoroughly with a glass rod. In a few moments it will, if adulterated, be of a bluish color. If the honey is greatly diluted it will form on the bottom of the glass a sediment of a deep sky-blue color.

3. *Adulteration with flour.*—Warm the honey till it is quite thin; let it cool off and add very cold water, constantly stirring till the flour separates from the honey and falls to the bottom, where it is easily recognized.

Additions of flour can be easily detected in such honey by warming it. It melts very slowly and burns easily.

4. *Adulterations with glucose.*—Mix honey with boiling water. If it has not an aromatic smell, but smells of starch or fusil, it is adulterated with potato or starch syrup.

5. Adulteration with glue can be easily detected by an addition of tannin. The latter is often used by wine-dealers to render red wine astringent. When used as an adulterant it forms a yellowish-white sediment.

6. The addition of water can be very easily demonstrated by the use of Schachinger's honey-scale. The specific gravity of pure extracted honey is 1.39 kgs. per liter. Watered honey soon ferments and easily becomes sour, and this is always a good means of detecting adulterated honey.

7. Artificial honey, known as Swiss, Alp, and grape honey, etc., are easily recognized—1. By the presence of sulphuric acid; 2. By a grating taste; 3. By the fact that it never crystallizes, but remains permanently liquid.

### EXTRACTORS.

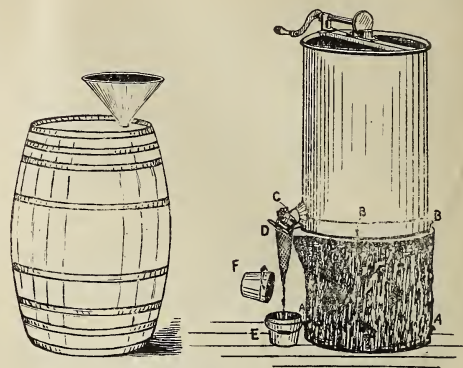
CRITICISMS AND SUGGESTIONS FROM A WISCONSIN BEE-KEEPER.

*Friend Root:*—I see quite frequently comments upon different honey-extractors by different writers, showing the difference in what they accomplish. I will try at this time to show something of the *use and abuse* of the extractor.

First, I wish to assert that more bees are killed annually by the ignorant use of the honey-extractor than by all other causes combined. I frequently meet bee-keepers who raise from 500 to 5000 lbs. of honey, wanting to change their little Novice machine for one with a greater capacity. Right here I wish to say, don't do it. If you have a machine, and can not sell it for what it is worth, *fasten it down* and wear it out. You can extract with it all the honey you produce, and that is all you would do with a \$25 machine. The weak point with the Novice, as well as nearly all other machines, is the cast-iron honey-gate; hence we see so many corncob and rag honey-gates. Why can we not have a malleable or wrought-iron gate? No one would object to the difference in cost. The above is a very disagreeable feature.

Another bad feature is the way a large portion of such machines are fastened down before commencing work. It is a truly comical sight to see the machine placed upon an old rickety bench or box, with a heavy comb in one side and a light one in the other: then see the operator chase the thing around the room in disgust. But this is the fault of the operator and

not the machine. The bench that I prefer is made by sawing off a block from a hard-wood log 20 inches long. I saw it off where a knot or limb puts out, so as to make a set-off for the honey-gate—thus:



This block is very heavy, and, if sawed off square, and nailed to the floor, as shown by A, A, A, and the machine fastened to the block by screws at B, B; then if the floor is solid I will insure the machine to "stay put" and remain firm. The illustration also shows my manner of straining honey. The little strainers you send out with your machines I always give to the little daughter to make a hoop-skirt for her doll, for I want one three times as large, and running to a point. You will see the strainer is tied to the faucet at C, with a hole D, through which is passed the honey-gate so it can be closed or opened at will; E shows the pail into which the honey runs, and F shows the manner of tipping the pail under the stream when the pail E is full; G is a tunnel holding  $1\frac{1}{2}$  pails of honey, which conducts it to the barrel after it is strained.

In the season of 1891, my wife, with a hand to help her and another to empty the honey, extracted, with one of Novice's little machines, 2080 lbs. in ten hours, while myself and son, 14 years old, with a hand to help, traveled 9 miles and took 1650 lbs. with the same kind of machine. I doubt whether much more would have been accomplished with larger machines.

I think I shall want one of your new Cowan extractors, and I want one so the weight of the machine won't break off the honey-gate. Machines that are drawn over the country, in a wagon, should have a better honey-gate.

Viola, Wis., Feb. 21.

M. A. GILL.

[Many of your points are well taken; but, friend G., it seems to us that it is a great deal of trouble and unnecessary labor to have two little pails to transfer honey into the barrel, to say nothing of the danger from danbing and the labor of handling the pails of honey. If you are going to put honey into the barrel at all, why not put the bung of the barrel directly under the honey-gate—letting the strainer, of course, run into the bung. But, as a general thing, honey should be ripened a little before it is barreled up; and, if we are correct, most of the extracted-honey men run their honey into shallow vats, keeping the same in a dry, warm, protected place for some length of time. In California the extractor is set on a side-hill, a pipe connects the honey-gate with a tank a little lower down, but high enough to allow the honey to run into a wagon loaded with square cans.

Speaking of the size of extractors, there is no



doubt that a little non-reversing machine will extract all the honey that most bee-keepers can produce; but the fact should be borne in mind that labor is an expensive item, and one may lay out more money in handling a crop of honey, in a single season, with a small non-reversing machine, than a large reversing extractor would cost. It is not a question whether a small machine will do the work, but it is a question which machine will do it the cheapest, considering the first cost and interest on the money.

Our extractors have of late been greatly improved, and the honey-gate has been made much more substantial; and we contemplate making the gate proper of malleable iron.

In regard to the Novice and Cowan, as the latter costs but a trifle more, it would not pay a bee-keeper who has a thousand pounds or more to extract, to fuss with a non-reversing machine; and reports are coming in, showing that the Cowan reversible does not throw a spray of honey over the can. The reason for this is, that there is no center-shaft nor brace-work that forms a sort of propeller-wheel to make an up-current on the inside of the can. Reversible machines, besides being much more rapid, have this as a distinctive feature. Read what Frank McNay says on page 174 of our March 1st issue.]

## COLD-MADE GRANULATED SUGAR SYRUP.

HOW TO MAKE A DESIRABLE TABLE SYRUP;  
AN IMPORTANT QUERY ABOUT RAMBLER.

In reply to the Stray Straw on page 159 of GLEANINGS, that those who have had experience with cold-made granulated sugar syrup should report results, I will say we use it on the table all the time. When properly flavored we find it superior to any thing we can buy. If not flavored it is tasteless—simply sweet, and we soon get tired of it. About one-fourth common brown sugar mixed with the granulated will flavor to suit some palates, and it gives a little color. We like best to place in the oven of the cook-stove a common tin pie-pan full of granulated sugar; leave it until the sugar is melted, and the resulting cake is a dark brown. Don't stir it. This cake is broken into pieces when cold, and mixed with the sugar as the percolator is filled. The flavor is excellent, resembling maple, and the color is good, thus pleasing both eye and palate.

We use a common glass percolator which holds about a gallon, and cost from 50 cts. to \$1.00. Any drugstore should be able to furnish them. One with a faucet in the bottom is convenient; but a cork answers very well. Glass is best, as it does not corrode, and you can see what you are doing. Fasten it to the wall where it will be out of the way, and the syrup-cup can be set under it. A piece of perforated wood or metal cut to fit the bottom, and covered with thin cloth, is as good as or better than a sponge; fill it with sugar and flavoring; add water until it stands over the sugar; keep it so, refilling as it runs out; let it drip in the syrup-cup as needed. From 7 to 8 lbs. of sugar will make a gallon of fine heavy syrup costing from 35 to 40 cts., which, being pure cane sugar, will, after the novelty has worn off, go further than the best you can buy at from 50 to 80 cts., none, or very little of the latter being pure. Besides being pure, it is clean, no dirt being able to pass the filter in the bottom.

About this time Dr. Miller is saying, "What has all this to do with my query about the crystallization or non-crystallization of cold-made granulated syrup?" Nothing, my dear doctor; nothing at all. So far this is how to make the best table syrup you ever tasted, almost with-

out trouble, and very economically. Will it crystallize? No, it won't if you let it drip into your syrup-cups as needed, and keep the latter closed when not in use; but it will if you leave it exposed to a warm dry air. Why? Because the cold water just saturates it as it passes through the percolator. It should pass through slowly to do so, and will retain indefinitely all the sugar it holds in solution, if not allowed to evaporate. If allowed to evaporate, the excess of sugar thus left behind will be deposited in crystals on the bottom and sides of the vessel. If fed to bees it should be largely diluted with water, both for the convenience of the bees in handling, and because, if the excess of water should be evaporated in the hive, it would crystallize, unless it is changed into honey by the secretions of the bees, as some claim. Hot water will dissolve much more sugar than cold. When syrup is made in the usual way by boiling, and enough sugar is added, or the syrup cooks down enough, more sugar is dissolved than can be held in solution when it becomes cold; the excess is deposited in crystals, which fill up the vessel holding it, and, with the disagreeable mess of making it, renders the whole business a nuisance as usually made.

Rig up a percolator, doctor; it is not often you can benefit your pocketbook and please your women-folks at the same time.

Say, what's the matter with Rambler, page 90? "He's all right," you say. Not a bit of it; he has something worse than the "scratches;" he's got *two* left feet and nary a right one. I say, you all let Rambler alone; you ought to be ashamed. I've heard of worrying a man until he did not know his head from his heels; but it is evident you have bothered the poor fellow until he is all left legs and no right ones. Don't see how he climbs those mountains in that shape.

Berlin, Mo., March 8. GEO. R. WELLER.

## SELF-HIVERS AND THE DRONE AND QUEEN TRAP.

THE USES TO WHICH THE TRAP MAY BE PUT.

I believe some of the self-hivers are used, not to increase the apiary, but merely to detain the queen and bees, and have as little interruption of work in the supers as possible. Now, if this is the principal object and use for a self-hiver, I see no good reason for using a swarmer of any kind, and I am of the opinion that the drone and queen trap can be used to much better advantage than any self-hiving arrangement. R. L. Taylor has used them in accordance with this theory, and recommends them as the best automatic hiver in use.

Those bee-keepers who do not desire swarms or increase in any way should use the trap. If a swarm issues while the trap is on the hive, the queen will surely be found in the trap, and the bees will return and commence work as though nothing unusual had happened. The queen will be all right if left in the trap several days—in fact, she can be left there until the seventh day after the swarm issued, and then re-introduced to the same colony she came from. Just here I will give a point that will enable almost any bee-keeper to prevent more swarms issuing from the same hive in the same season.

Allow the queen to remain in the trap three days after the swarm comes off. Then re-introduce her (any other will do) to the colony. If the queen is introduced as here advised, it will not be necessary to open the hive and destroy the queen-cells, as the queen introduced will attend to that matter as soon as she gets possession of the combs. There will be no more swarms from that hive that season. If the queen is

known to be a very old one, it is not advisable to re-introduce her, as the colony would be likely to throw off a swarm at any time during the summer.

Now, here is another way to manage the trap at swarming time. If the colony that swarms needs a new queen, and it is not convenient to purchase one, let the old queen remain in the trap till the twelfth day, or until there is no probability of more swarms issuing from that hive. In the meantime, all the queen-cells that were in the hive when the swarm issued will have hatched, and perhaps several dead queens will be found in the trap. Now the trap should be removed so the young queen can take a mating-flight. The only objection to this last method is the loss of brood that would occur while the colony is rearing a queen. Should this occur during the last days of the honey-flow, the damage to the colony from loss of brood would be very slight. Some would claim that it is a decided advantage.

If desirable to preserve the queen-cells reared in a colony that has cast a swarm, the combs should remain undisturbed until the seventh day after the swarm issues. I have found, in my long experience in queen-rearing, that it is a dangerous thing to handle queen-cells before the embryo queens are pretty nearly matured. When capped seven days, the cells will stand rough handling and a temperature a good many degrees below that of the hive the cells were taken from, and not be in the least damaged.

When the cells are removed from a colony that has swarmed, one of the largest and finest cells should be selected as the one to remain. Remove all others. As it is difficult to find *all* the cells, the trap should not be taken from the hive till the twelve days have expired, as a second swarm might issue in the meantime. A queen usually hatches on the eighth day after the first swarm issues, and it is on that day that the second swarm will come off.

Wenham, Mass.

HENRY ALLEY.

[We shall endeavor to experiment again along the line that Mr. Alley has indicated. In the meantime, see our editorial elsewhere.]

## LADIES' CONVERSAZIONE.

### LIFE IN FLORIDA.

MRS. HARRISON TELLS SOMETHING ABOUT IT.

*Mr. Editor:*—I have spent several days of this week out in the country, among the homesteaders, and a little of what I saw may be of interest to your readers. I had been requested to go to a town eight miles distant, on the banks of this lovely bay, to talk bees. As an additional attraction, several musicians went along, and sang and played "Dot Happy Bee-man" and other bee songs familiar to those who attend bee-conventions.

The musicians went there in a sail-boat; but as I desired a closer acquaintance with the pine woods I requested permission to ride with a woman returning to her homestead, in a wagon drawn by a yoke of oxen. I enjoyed this ride exceedingly, looking at the tall pines, the blooming ti-ti, the lupens, sage, and other flowers. My pleasure was marred only by pity for the poor oxen. Their mistress guided them with ropes round their horns. One of them she called Diamond; the other, Joe. Diamond cheerfully obeyed her directions, but was mad if she wanted him to go a road not leading toward their home, and would pull in a different direction until he was whipped into submission. She

would talk to them as if they were children: "Joe, why do you act so? why don't you begood like Diamond? he is a good ox." Joe saw a toadstool in the road, which appeared to be a tempting morsel for him; and in getting it he ran his horn under a stump, and she said, "Joe, why don't you behave yourself? you came very near breaking your horn off."

This woman told me that, if I would come out to her homestead next day she would yoke her oxen and take me two miles to another homestead to see a tea-tree higher than my head. I did so, and on the way she pointed to a large magnolia-tree, saying, "There is the best spring that I ever saw, coming out clear and cool under that tree."

When we arrived at the homestead I was pleased with what I saw. Here was a poor family of eleven—father, mother, eight children, and a grandmother nearly ninety years old. They were too poor to buy trees; but by grafting and budding they had thrifty trees of all kinds belonging to temperate and semi-tropical climates. Whenever there is danger of frost killing their fruit they stay up all night and keep fires burning, and have saved their fruit in this way. The father of the family, and two large boys, have a fish-house on the bay, and catch and sell fish and oysters to teams who come for them from the back country, while the mother and smaller children tend the orchard. She knows every tree, bush, or vine, and loves and watches them with a mother's care. Apples, pears, quinces, and every bush or vine, will grow from cuttings in this soil and climate. She pointed to a very large grapevine, saying, "That is a wild vine, and I want some more of them, for the bees like them so well." In answer to my inquiry as to how much honey she had last year, she said, "About half a barrel." Their bees are kept in box hives, and I'll take back all I ever said against them when I see poor families enjoying this luscious sweet when a movable-frame hive is beyond their means.

The tea-trees were very luxuriant, and belong to the same order as the *Camellia Japonica*, which they resemble. These trees were raised from cuttings, and I purchased a small one, which had a mass of fibrous roots, which were tied up in an old cloth. I looked around for something to carry it in, when I spied a large gourd which answered the purpose well. All trees and plants from China and Japan, such as plums and persimmons, cherries, etc., take kindly to the climate, and I wonder if there are no bees that could be introduced from that country. During the Centennial at Philadelphia, among the Japan exhibit I saw a painting of a swarm of bees in the air, and the Japs after them.

### AMONG THE PINES.

On this trip I was at five different homes, and there were bees at all of them—only a few colonies, though, kept in box hives, and they were the smallest black bees that I ever saw. I bade good-by to the woman whose hospitality I had enjoyed, and walked through the pines to the postoffice, to take passage in the mail-boat. Before it arrived she came in, saying, "All of our trees, and everything that we had, is burned up." As she was alone, and worn out with fighting the fire, heat, and smoke, I returned to the homestead with her, and assisted in putting out the fire. I found that a picket fence surrounding the house was remaining; the bees, pigs, Joe and Diamond; and that but few trees in the orchard were injured. The fire came through the pines faster than the fleetest horse, with a terrific roar, and the tops of the burning pines at night resembled electric lights.

MRS. L. HARRISON.

St. Andrew's Bay, Fla., March 22.



## JAKE SMITH'S LETTERS.

THAT "BRETH."



**MR** *Mr. A. I. Gleanings:*—Sum poeple is very stingy about tellin what they know. I aint. I like to let uthers lurn what ive lurnt. So I make bold to use the cullumb of your as-teamed gernal to in-struck the yooth of our land about bees.

Bees is different kinds. Hunny bees, bumbel bees, queen bees, and I wood here stop to explane that there haint no king bees, jist queens, like it is in England. And the bees thinks as much of their queen as the subjects of queen Victoria think of her. They jist think the world of her. Why, she doant have to feed herself or wash her oan face. The bees do it for her. She jist enjoys life layin eggs and leadin out swarms.

But ile tell you more about queens bineby. As I was a sayin, thay is hunny bees, bumbel bees, queen bees, drone bees, worker bees, quiltin bees, huskin bees, and a bee in the bonnet. That last is a figger of speech, and means a man which has invented a noo kink into a hive, and thinks the world wood stop agoin round if he didnt tell evry buddy about his invenshun. And heal git you up in a corner, or git you by the collar of your coat, and then heal tock and tock and tock.

Wunst I of that kind got aholt of me. He had invented a pain of glass to put in the back of a hive, so he cood see the bees to work. I was git-ting the old mare shod at the blacksmith shop, and he tackled me about that pain of glass into the back of a hive. He had a bad breth. I think his stummich was out of repair. After he had toald me all they was to tell, and sum more besides, I begun to back off from him. I seed my mistake then. He got aholt of my coat collar; and thogh I made sum attempt to back off, he held on and follered me up till I struck the wall of the blacksmith shop. Then he had me. It was no use to struggle against fait.

Ime pirty well up in the world, bein sum 6 feet hie, but he was taller yit. Tall and slim. Sumwhat consumed lookin He jist brung his face close down to mine, and I had to stand and take it. Oh that breth! It was offal. How I wisht the Atlantic otion was betwixt us! Or the Pesiffick! How I did wish I had never tried to back off from him, but had pashiently endoored the faint aroma of his breth that I received at the 1st respectful distance! When he got his face cloast up to mine, and the full idea of the strength of that breth dawned upon me, I giv up then and there that I had never experienced sitch a breth before. It resembled a cross between a skunk, a billy goat, and a limburger cheese.

Then I began to feel in my pockets to find a peace of sassyfrast, or sum sitch thing to take

the bad taist of that breth out of my mouth. But I haddent a blame thing about my clothes. Then I began to think what a dreadful thing it wood be to die that way. And I cood see the wimmen as they marched by the coffin, a lookin at the corpse and aholdin their hangkarcheese to their nose. For by this time I was satyournated, so to speak, with that breth. Not that I cood reely see enny sitch thing, for as yit I was a astandin agin the wall of the blacksmith shop. And I began to think over my past life, and I wisht I had been kinder to my old woman. For altho Betsy Smith had a tung in her head, she means well, and they haint a man in 10 miles has had better vittles than me. And in that tryin our, I diddent feel like layin nothin up agin Betsy.

Jist then a tremenjous shower of sparks from the anvil floo all over us and skairt the old mare so she jumpt nearly out of her skin. I took my chants, and embraced my opperchunity to brake loose and grab the creeter, and never stopt till I was on her back and on my way home.

That night I brung in more than the yousual allowance of wood for the old woman, and piled it more careful.

JAKE SMITH.



OH, THAT BRETH!

P. S.—Much ablidged for the paper you sent me. Yuve got the pickter of me to a dot. oanly yuve marked the rong name under me. My name's not Murray Heiss, it's Jake Smith.

## THE WHEEL AND ITS PROBABLE FUTURE.

J. A. GREEN TELLS US SOMETHING ABOUT ITS VALUE TO THE BEE-KEEPER.

*Friend Root:*—I have been greatly interested in your experience with your late hobby, the wheel. I am one of the crankiest cranks on wheels myself, and it does me good to see such missionary work in that line. I am as firm a

believer as you in the practical usefulness and possibilities of the bicycle, and I think that the use at present made of it is only a beginning, and that the next few years will see a development of it that in itself and in its results will be of the highest importance to the world. A Harvard professor, in a recent speech, declared that the invention of the bicycle deserved to rank next in social importance to that of the railroad and the telegraph; and I think that all who will carefully consider the possibilities of the bicycle, what it has already begun to do, and the effect that these things will have on society as at present constituted, must agree with him. The way to help the wheel to take its proper position in the world's regard is by just such practical uses and recommendations as you and some of your correspondents have been giving it. Mr. Walter Harmer may meet with some ridicule and a great deal of "chaff" in using the wheel for delivering honey, but he is on the right track. By the way, I once carried a crate of comb honey five miles on a wheel. That was in the days of solid tires, too, but not a comb was injured. I believe I was the first to call attention to the value of the wheel to bee-keepers in visiting out-apiaries. During the past season I have found it very valuable for that purpose, enabling me to get along with two horses instead of three, which I would otherwise have needed, besides saving a great deal of time by its greater speed and convenience.

Riding the bicycle is one of the most enjoyable of sports; but that is not all. It is one of the most healthful forms of exercise; but that is not all. It is one of the fastest, cheapest, and most convenient methods of travel; but that is not all. Too many people still persist in regarding the wheel as an expensive plaything, a toy which only the rich can afford, and which will be thrown aside as soon as what they are pleased to call the present "craze" is over. What we need is to pound it into the heads of these people that the wheel is one of the most practically useful inventions ever produced.

In England the wheel is said to be used literally by "the butcher, the baker, the candlestick maker," and for the most practical purposes. It must be confessed that England is ahead of us in most matters relating to the wheel. They have there one cyclist to every 93 inhabitants. Here we have only one to every 209. If the tremendous rate of increase shown last year is continued long, with the good roads that the influence of the wheel is already beginning to give us we shall soon be up to them in this respect.

It is said that there is already more rubber used in making bicycle-tires than for any other one purpose—more than for rubber boots, over-shoes, and clothing. Perhaps the reason for this is, that the rubber used in their manufacture must be really rubber instead of a conglomeration of adulterations.

At present the racer and the fast road-rider are at the front in cycling matters. The manufacturers cater to them, and the development of the practical uses of the wheel receives but little attention. This is to be deplored, because, while these men are doing some good by calling attention to some of the possibilities of the wheel, there are many who hold aloof from cycling just because of their follies. The "monkey on a stick" position assumed by those who think it necessary to ride a mile in the least possible number of seconds, will undoubtedly often have grave physical evils as its consequence. Very likely, also, many will be injured by the overstrain of competition in races and long exhausting rides; but used with a proper degree of moderation and common sense, I be-

lieve there is no more healthful form of exercise. I think, too, there is nothing of which one is less likely to tire. I began to ride the wheel eleven years ago, and with some intervals have been a rider ever since. I enjoy riding to-day more than in the beginning, and I am stronger, healthier, and heavier than ever before. In fact, I am dreadfully healthy, with an appetite for which three meals a day is hardly enough.

Many people imagine a wheel can be used during the summer months only. I have been using my wheel all winter, and have heard myself referred to as the fellow who uses his bicycle as much in the winter as in the summer. During the very stormy and cold month of January I used my wheel every day except five, riding from two to ten miles every day. It was pleasanter than walking or driving, and I saved time by it. Most of this was on city streets and pavements, though one day I rode ten miles over country roads in one of the worst snowstorms of the season. On well-packed snow, a pneumatic wheel runs almost as easily as on a good gravel road; and the expert rider finds ice, even of the slipperiest kind, most enjoyable riding. Nothing but extremely rough roads or soft, deep mud or sand, can stop a good rider on a modern wheel.

Say a good word for the wheel whenever you can. GLEANINGS is "devoted to home interests," and there are few things that in themselves and in their results are more likely to advance home interests than an increased use of the wheel.

J. A. GREEN.

Ottawa, LaSalle Co., Ill., Feb. 22, 1893.

## RECOLLECTIONS AND EXPERIENCES; BY AN OLD BEE-JOURNAL EDITOR.

### EXTRACTING, QUEEN-REARING, ETC.

At the time we parted, our colonies were ready to extract. Before we start, a few preparations are necessary. The need of a good honey-extractor is self-evident. Formerly we stored new honey in heavy oak barrels; but the leakage under any and all circumstances made this unprofitable. Now we own several forty-gallon heavy tin cans, the kind used to carry milk to cheese-factories. Small enough to go inside, we cut a board; to this we nail thin ceiling, to rest on the edge of the can and secure a tight cover. A 1½-inch hole is bored through this cover. A smaller hole is made in the bottom of a fourteen or sixteen quart pan, and a tube about two inches long is soldered on. A piece of tinned wire cloth is cut to a circle, and tin-bound. This rests upon a few strips in the bottom of the pan. Several ordinary cheese-cloth strainers are provided, one of which rests on the wire cloth to receive and strain the honey. This pan is now ready to stand upon the can-cover.

A smaller tin can had a shallow pan, with wire-cloth bottom, resting upon its open top. A wooden bar is provided across the pan, upon which to rest the frames for uncapping. After cutting off the cappings they drop into this pan. A pail or dish of water is indispensable now. You consider us eccentric; but we think that, for dislodging bees from the combs, nothing equals a wing made from two or three genuine turkey-quills—the primaries from the wings. These are laid over each other in proper form; a piece of tape is wound closely around, and several stitches taken to hold all firmly. We were amused to note that one of the California bee-keepers recommended these, and he refers to the great advantage gained by wetting them frequently. We add, that, to draw this



wing quite often through water, adds wonderfully to its effectiveness. No other quills that we ever tried begin to equal these primary feathers from turkey-wings.

Many a hot day have we sweltered beneath a vest. This seemed necessary, for we must have a pocket and something to confine the veil. Finally necessity was the mother of invention. Some denim was made into a bib; a narrow deep pocket was formed to carry our dull knife used to pry frames; a button at the back of the neck, a pair of strings at the waist, and a string down the back to connect both, completed the rig. This is a cool and handy device in a hot day.

Now for the hives. The enamel sheet is turned back to expose four frames. One by one these are removed, and the bees dislodged, and those remaining brushed in front of the hive. These combs are turned over to an assistant, and four more are uncovered and taken out. By this time the others are ready to put back, unless much uncapping is necessary. We now put these back and remove the two still remaining. This brings us to the perforated division-board. If the hive is much crowded with bees, we take out one or two frames of brood, and replace with empty combs. This process continues throughout the yard. When six or eight frames of brood accumulate, we place them in an empty hive which is put on the stand of a moderately strong colony. The latter is taken to a new location, and the queen, with a frame of brood and adhering bees, is placed in the hive on the old stand. In five to seven days, remove all queen-cells; roll a laying queen in honey, and drop her in, or insert a cell or two about ready to hatch. If honey is coming abundantly, and the colonies are strong, we extract the honey twice a week. It is best to have some of the honey capped, but never more than a quarter of the surface, for it makes too much work to uncup it; besides, the bees are not profitably employed. If the bees fail to occupy the entire space in each hive, we add brood from the colonies too strong. We constantly aim to get all colonies strong, for on this condition depends the profit.

The queens seldom get past the division-boards. If they do, no harm is done, and they can, at the next extracting, be transferred to the brood-ends. If the hives are not surfeited with honey, a good many queens will produce more bees than can be kept contented in our hives. Discontent is a most unprofitable condition. Better remove brood as already described. Seldom has a swarm issued in our yard. We consider it a great hardship and loss of time to watch or chase swarms. Attention to the yard, properly applied, benefits the bees, saves waste of time in catching and hiving swarms, and wonderfully increases the yield, consequently the profit. The long entrances go some way toward keeping bees cool and contented.

If we understand our location, we shall be particularly late in the season not to take all the honey, nor continue extracting so late as to curtail the winter store.

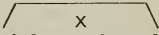
Sometimes we have, and others may prefer to have, ten empty combs ready to take the place of the ten to be extracted. If these have been recently occupied by bees, or have some brood in them, no objection exists; otherwise the bees may be slow to occupy, and often get discontented, and prepare to swarm.

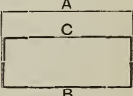
Toward the close of the honey season, if we are ambitious for increase we draw a colony back a couple of feet, set an empty hive in its place, open the buttons a trifle, and fasten on the bottom-board. Place a wooden division-board in the center. Now open the colony; transfer the brood first, setting frames of equal

value alternately on both sides of the center board. Note the side that gets the queen. Continue until each side contains six or seven frames; adjust the followers; put on the enamel sheet and a thick quilt, and you have two colonies. This arrangement makes two clusters, but they are near together, and warm each other very naturally. Proceed by the usual methods to get a queen in the queenless end. When we fertilize queens in these hives we screw a little bracket up the front of each hive, so that the young queens will not go into the wrong entrance. With one or two exceptions, all our colonies are now provided with two queens each. If bees are wintered out of doors in severe climates, we do not advise this procedure.

The following spring we have queens enough for all vacancies, and a few to sell, and can then draw out the division-board and reunite; or, if we prefer, we can set one half into a new hive and proceed as usual.

We have before told you, that, at one time, we grew and sold hundreds of queens, commercially. This business is very confining. As a pastime we still enjoy it immensely. The frames we use are well adapted to this business, and two of them form a substantial, self-sustaining nucleus. When many queens are to be grown they increase the investment, require many bees, and add a good deal of labor to the operation. We have curtailed expenses and greatly accelerated the manipulation as follows:

We bend a lot of tin strips,  $11\frac{1}{2}$  inches long, like this:  One is tacked to the under side of the top-bar of our regular brood-frame. To a wooden strip 12 inches long,  $\frac{1}{4}$  inch thick, and  $\frac{3}{8}$  inch wide, we fasten another. This bar is nailed exactly in the center of the frame, horizontally. We next prepare top-bars of proper length, the sectional end view being like this:

 A is folded tin; B is the end of the top-bar; C a cavity or space between A and B. The tin strip A is long enough to extend past to B, at both ends, far enough to nearly cover the thickness of the end-bars. These latter are only  $\frac{1}{2}$  inch thick. Of course, the end-bars are nailed just even with the upper side of B. The bottom-bars are the same length and size as the top-bars. Four of these frames are made to fit moderately close in the large frames already described. The strips X prevent the small frames from dropping out, and the bees soon propolize them enough to make all secure. These combs can be used in full colonies, either for brood-rearing, honey storage, or extracting. Of course, these wooden divisions are not really desirable in large hives. Nucleus hives to hold three or four small frames are built. When ready to raise queens we go to the large colonies and get some of those nucleus frames containing honey. Pieces of  $\frac{3}{4}$ -inch hoop iron, about  $6\frac{1}{2}$  inches long, are slipped into the cavities marked C, and we have projections for suspending our small frames. Two frames of honey and a good lot of bees are put into each of the boxes, and wire-cloth covers provided. These are set in a cool dark place for 48 hours. Sponges filled with water are placed on top of each box. The evening of the second day, get out enough frames of brood, some of it in the early larval state, to supply one or two to each box. In the twilight, take these boxes to their stands and open the entrances. In a few minutes remove the screens and add the brood. Of course, the bees are greatly demoralized, but they have the night to crawl in and get comfortable. Queens or cells can soon be introduced to these boxes. Some of us know very well, that, unless placed in the shade, and provided with unsealed brood,

these bees are liable to swarm and desert their boxes when the queens fly out to mate. We provide against this by arranging about thirty of these small frames in pairs, in a flat hive, into which we put a good swarm and a prime queen. At any time we can get unsealed brood from this, especially if we feed regularly when necessary. If this colony weakens, add capped brood from our regular apiary.

Queens get fertilized sooner in these boxes than in large hives, and the work of examination and finding queens is much less than with boxes containing two or three large frames. If these boxes are kept strong with bees we prefer three frames, for then we know just where to find the queen and her deposit of eggs.

It is best to place these small hives in a moderate shade. If this is not practicable, lay on a second board, large enough to keep off the intense heat.

Years ago we adopted a little convenience that we have not seen mentioned, but which we find indispensable. We bought a soapstone, the kind used for foot-warmers. The wire bail was removed. A thin light box was made, six inches deep, and large enough to receive loosely this stone. Strips are provided to raise the stone  $\frac{1}{2}$  inch off the bottom. A portion of a barrel-hoop is fastened on securely for a bail. A cover, with cleats underneath, slides under the bail, and a block is nailed on top, forming a handle. A quilt covers the stone. In hot weather this box forms a cool place for cells or queens. In cool weather we warm the stone to the required temperature. In the box we lay a small board bored full of holes of the proper size to hold spiral queen-cages, which, as we use them, are as handy as any we have seen, and which are not subject to a royalty or infringement.

In our next we will describe them and tell you how we make them. J. H. NELLIS.

### RAMBLE NO. 31.

#### ON MEXICAN SOIL.

Our only place for crossing the line into old Mexico where there was a custom-house was at Tia Juana—pronounced Te Whah-na. Our journey was not out of the ordinary until we were near the border, where Mr. Hansen came across an old darkey friend of his, and the following conversation ensued.

"Why! hello, Jim! What you doing away down here? Are you in the chicken business yet?"

"Well, I reckon I'se got dat ar coop full. Whar's ye boun' fur, Mr. Hansen? done got lost, eh?"

"Oh! we're looking around to see what's the prospect for bees down here. Do you know of any stray swarms around?"

"Why! yas, dat ar schoolhouse up on de hill dar is chock full on 'em. Dar's two in the cup-erlo, one just over the mirandy, and another near dat ar dorcas window."

"That so, Jim? Glad you told me. I'll come down some day and take them out."

"Yah, yah! you will, eh? Why, dem's my bees. I wants dem myself—dems mine, shoer, Mr. Hansen. I's goin' to start in de bee business myself; spect to make a right smart thing out of 'em."

"All right, all right, Jim. Success to you with poultry and bees. Good-by, Jim."

A little further along we found Messenger's Store, where an honest German was having his ups and downs in the border country. The Tia Juana River had washed away several thou-

sand dollars for him, but he was up and at work again. His store was a sort of depot for receiving honey and wax from the Mexicans; and what he received was, a good share of it, taken from wild colonies found in rocks and other cavities, and the trade amounts to several thousand pounds per season. Mr. Muth—a brother, I believe, of our Cincinnati Muth—lives not many miles from this point, and we learned from Mr. Messenger that the product of his apiary during the past year was 185 cases of honey, or 22,200 lbs.; so it seems that the Muths are successful in the matter of sweets wherever they are located.

Our visit to this honey and wax depot led us to Tia Juana in a roundabout way, and we entered the town by the back door, or from the Mexican side. Although we have many Mexicans in California, they are very much Americanized in manners and dress. Here we found quite a different appearing crowd, with a more uniformly swarthy complexion; the tall broad-brimmed decorated Mexican hat was a distinguishing feature, and more people were on horseback than in wagons. Tia Juana is a small town, with but few buildings, and the custom-house is the most pretentious of any. There was formerly an American portion to the town; but the river, in one of its periodical overflows, had wiped it out, and the Americans now residing there were in scattered locations. Tia Juana is at the end of railroad travel. The motor from San Diego runs here mostly to take visitors out here who wish to see a Mexican town and walk on Mexican soil. We find plenty of the rising generation, and about an equal number of dogs. It is proverbial, that, the poorer a Mexican family, the greater the number of babies and dogs.

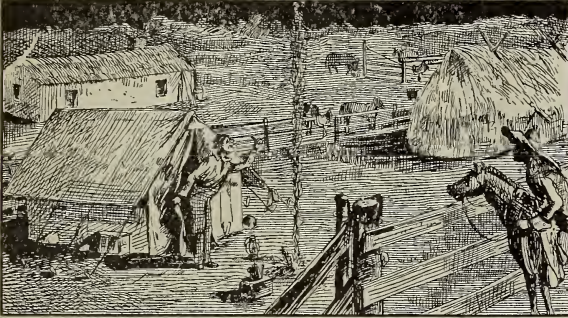
We presented ourselves at the custom-house in our everyday toilet of slouch hats, brown duck overalls and blouses, and without boiled shirt-fronts or starched collars. The officers evidently took our word for it that we were quail-hunters, and gave us the permit desired, and we forthwith jogged happily along into Mexico, and westward toward the San Antonio Canyon. The only signs of life we saw for a long distance was a herd of several hundred goats browsing on the dry herbage, and attended by a solitary mounted vaquero.

The San Antonio we found to be something of a labyrinth of canyons; and, after getting puzzled over the various trails, Mr. Hansen climbed a small mountain to get his bearings. From his elevated position a barley stack was visible, and, making that our objective, we hastened down the canyon and found that to be the ranch we were seeking—Machado's, of San Antonio. Mr. Hansen had been here before, and was somewhat acquainted with the owner, who could talk but very little English. The Mexicans are something of a silent race, and our conversation was not very prolix; and what there was of it, I left for Mr. H. to perform.

The Machados lived in a typical Mexican adobe, with a broad veranda upon one side, upon which the family live as much as, if not more than, they do inside. In the living-room there was an ample fireplace and no stove. The family had just eaten their supper; and, after getting permission to camp near the house, we prepared to make a fire to cook our evening meal, when Mr. Machado gave us permission to use the fireplace, upon which there was already a rousing fire. So friend H., who was chief cook that evening, went in with his little pet steam cooker loaded with potatoes and quail, and placed it over the fire, and soon our food was cooking finely. Before our cooking was finished it was getting dark outside; and instead of lighting lamps, and reading books and newspa-



pers, in a civilized way, the family went to bed. In fact, I don't believe they had a lamp or a newspaper in the house. Bro. H. was in a peck of trouble over his cooking. The big fire melted both handles from his choice cooker, and blackened its fair exterior. In removing it he burned his fingers, spilled water on the fire, and came out to the veranda in a hurry, talking Dutch and English in a subdued tone, and not at all complimentary to Mexicans and fireplaces.



DISTURBED BY MEXICANS.

As he could not see the sardonic smile I then wore, I sort of shouted in a stage whisper, "Well, who's a kicking?" I felt a little sardonic, from the fact that our friend, while on our travels, wanted to camp every time in somebody's front dooryard; and this time he had overdone the thing, and got right in with the family, and Mexicans at that. It did not work well, especially upon that lovely cooker.

After my remark, we silently ate our rations in the dark, and in due time withdrew to our camp out beside the barley stack.

We were just dropping off to sleep (Mr. H. had got in several big snores) when a Mexican rode up on horseback outside the corral, and, from his actions, I knew he wanted to get through. I went out and showed him the gate and the open window, where he could find Mr. Machado. He evidently obtained permission to stay, and, securing his horse to the corral, disappeared in the darkness. At a later hour another Mexican rode up. He was also shown the way, and disappeared like the other one. About midnight the same operation was performed again. About that time the arrival of Mexicans became monotonous, and so devoid of novelty that I joined Mr. H. in the land of dreams. In the morning the corral was nearly encircled with horses; and before sunrise the Mexicans, singly and silently, departed without even an "adios."

There was but little evidence of cultivated fields around the residence, and their main means of subsistence is in the rearing of cattle.

Near the house was an immense grapevine, fully 12 inches in diameter near the ground, and covering an immense trellis, and laden with the delicious Mission grape. Having permission to partake, we enjoyed the privilege.

This canyon has many wild bees in it; but there are no apiaries. The honey flora exceeded in abundance and variety any one field I have ever seen. While on our trip to Campo we found an abundance of white sage, and but a small amount of black sage; but in this canyon both varieties were in abundance, with a great variety of other honey-plants.

The Mexicans do not get hold of bee-keeping, and American enterprise is kept out by a duty of 20 cts. per gallon on all honey imported into the United States. About the only way to raise honey here profitably is to raise it by the cargo and ship it to foreign ports. In years past Mr. Harbison has had his mind upon these fields; and the plan he proposed was to form a company for working them.

Directing our exploring expedition to the south, we arrive at the Ames ranch. Mr. Ames is an American, and is joined in blissful wedlock to a Spanish wife.

Mr. Ames was absent, but we were warmly greeted by the vociferous barking of six dogs. This brought an equal number of children to the door, with the mother in the rear, and an old barefooted wrinkled Mexican near the house. We inquired the way to the sea by saying, "Donde está el mar?" She rattled off Spanish at the rate of a yard a second, and gesticulated with both hands and her head



RAMBLER WASHES HIS FACE IN THE PACIFIC.

vigorously, and we departed, just as though we understood every word, when we didn't understand one.

Cattle, horses, and grain was the chief industry here, and the rolling hills were entirely destitute of honey flora. Soon the broad expanse of the Pacific was before us; but we had gained the shore in a very tame place, and, after



picking up some rare and beautiful shells, we continued our journey, no houses in sight, no human beings; a herd of cattle and a band of horses were enjoying the surf along the beach. That was all the life manifest. Before we had lost sight of the horses, however, a band of vaqueros came around a point, and came toward us upon a swinging gallop. Our permit, however, gave us an easy feeling, and we were gratified to see them make for the herd of horses instead of us. The roads we traveled this day were hilly and stony, and led through long winding and guttered canyons, apparently little worked and little used. At night we camped near the seashore, and dame Nature kept us company by dashing the spray of the rolling breakers at our feet; and their incessant thunder lulled us to sleep. Ah! wasn't that a grand place to camp? no Mexicans to bother us, and just over the line on Uncle Sam's domain.

Near our camp was posted a very peculiar notice—peculiar in being posted where the ocean spray could often strike it. It read as follows: "Hunting wood and honey is strictly forbidden." It is supposable and probable that wood is often thrown up here on the shore; but it seems a queer place to hunt honey in nothing but sandbanks, but, nevertheless, it is a fact that hundreds of wild swarms find a home in places along the shore, and owners of the land take this method of warning trespassers away. It would be interesting to know how many swarms annually get beyond land in their westward flight, and are swallowed up in the waves of the ocean. Even at that time of the year (October) many swarms were migrating; and before camping we found a large swarm on a bush by the roadside, presumably a starvation swarm.

The coast near our camp had a fine gravelly beach, but it was evidently a dangerous place for bathing, from the terrific undertow. As our canteen of fresh water had become somewhat reduced, I thought it would be just fine to take my morning wash in the Pacific Ocean. With washdish in hand I proceeded to dip up some water; but I found that a breaker spread out so quickly and so thin that there's nothing to dip. Not to be cheated out of my wash, I followed the breaker down almost 12 ft., when it receded; and, with the edge of my washdish, I dug a hole in the sand and ran up the beach ahead of the next foaming breaker. In a minute, back it went, leaving a fine pool of water in my excavation. Finding the water full of sand I allowed it to settle, and forgot for an instant the next returning breaker; and, before I could get out of its way, it politely helped me to land, and actually roared a sort of hoarse laugh as it swirled into the deep again. I looked up from my wet condition, expecting Bro. Hansen to shout, "Well, who's a kicking?" but his mind was intent on cooking, and he had not seen my encounter with the Pacific. Though somewhat wet, I tried the trick again, and obtained the water and washed delightfully. The sketch will give a fair idea of the situation, also showing the warning to trespassers.

We broke camp in the cool of the morning, and the dinner hour found us back at National City, in Mr. Hansen's free and easy bachelor's quarters. Our trip had consumed ten days; and, though we had been living a sort of gipsy life, we returned with health in every pore of our bodies. Our intercourse with our bee-keeping friends had been pleasant, and we felt as though we had done some good missionary work for the Bee-keepers' Union. Not feeling much the necessity of rest, we went over to San Diego that afternoon, and in an interview with Mr. Harbison will next be found Mr. Hansen and the

## HUMBUGS AND SWINDLES.

### SELLING RECIPES FOR DOING THINGS.

Some time ago one of our correspondents sent us a lot of circulars. The largest circular told about wonderful recipes worth immense sums of money, to be sold at enormous (?) discount (!)—among them the great butter recipe, worth \$10.00. Most of you have doubtless heard of it. The whole of the milk, just as it comes from the cow, is, by a trick of chemistry, to be converted into solid gilt-edged butter. The circular says: "Any one can make butter at a cost of  $\frac{1}{2}$  cent a pound, which I guarantee to be fully as good as pure cream butter, and much healthier. Price postpaid, \$10.00." Then there is a way to keep fruit, without sealing it. It says: "I pay \$1.00 a gallon for all fruit that does not keep when put up according to recipe;" to make elder without apples; to cure rheumatism, toothache, neuralgia; to make buttermilk yeast; to preserve meats, milk, fish, etc., without salt; to purify lard; a recipe to make hens lay "continuously the year round;" to keep vegetables; to make soap without lye or grease; washing-fluid; jellies without fruit, "twice as healthy, four times as pretty, and can be made in 40 different flavors." And last, but not least of interest to the readers of GLEANINGS, how to make artificial honey—some that nobody can tell from bees' honey, and some that costs only 6 cents a pound. In explaining the matter, the vender kindly informs us that it is an awful bother to get honey by keeping bees; they sting folks, and you have to work out in the hot sun; you must watch them every day, and a good many times they get lazy and do not make honey even then. These valuable recipes all together would, if bought singly, cost 30 or 40 dollars; but if you buy the lot you can have the whole grist for only \$10.00. Along with this liberal proposal comes a little slip on which a poor woman tells us that, if we will send to her for the recipes, *she* will send the "hull lot" for only 25 cts.; and there is a postscript at the bottom where she says she will throw in a song-book besides, which is alone worth a great deal more than the 25 cts. Another postscript says she is a poor woman working hard to support her family; and if you send her 25 cts., it will be helping the widow and the fatherless. Did anybody ever before hear of such a pile of property (?) lumped off at such a fearful sacrifice? And, after all is said and done, you get a song-book too, and help the widow and fatherless "to boot." Why, it is more than human nature can stand; and so I just threw things around until I got 25 cts. put into an envelope and started off. Days passed while I was waiting in breathless suspense; yes, and some more days passed; and after I had given up all hope, and almost forgot my disappointment in doing something else (riding my wheel, for instance), a little bit of letter, written on a scrap of paper printed on the other side, came to hand, saying that this worthy woman had been off on a trip to Florida, and, of course, *she* could not fill my order till she got back. The envelope contained the recipes; but that wonderful song-book was to come after a while from Boston. Our friend who sells the recipes, and solicits help for her family, lives in Kewanee, Mississippi. Now, would you like to know about these printed recipes worth 30 or 40 dollars? We can not afford to take space to give all in GLEANINGS, but we will give you just two, *verbatim et literatim*—the butter recipe and the honey recipe. Here they are:

### GREAT BUTTER RECIPE.

2 ounces of Gum Arabic; 1 ounce of Alum; 25 grains of Pepsin. Powder up fine and mix well.

RAMBLER.



**DIRECTIONS:** Put into a tin bucket one cup each of butter and new milk, a little salt and as much of the above as will lie on a silver 5-cent piece. Now set the bucket in some warm (not hot) water, and begin to stir with a spoon, and as soon as the butter melts take the bucket out of the water and go into the cool air with it and continue to stir it, until it gets cold, and it will be butter. You may fail a few times, but keep a trying til you learn just how to work it.—Price \$10.00.

#### ARTIFICIAL HONEY.

Good common sugar, five pounds; water, two pounds; bring gradually to a boil, skimming when cool; add one pound bees' honey and four drops essence of peppermint. If you desire a better article, use white sugar and half pound less water, half pound more honey. \$1.00.

To tell the truth, I have not even tried the great butter recipe at all. The last sentence is what discouraged me. It suggests that you may fail a few times; but you are to keep on trying "til" you learn just how. I am a little afraid I should never make it work, and then the disappointment would be more than I could bear. Come to think of it, I didn't try the artificial honey either. The thing that discouraged me about that was the clause, "If you desire a better article," etc.

P. S.—Oh dear me! after I had got all the above said and done, I found at the bottom of one of the papers this:

"This Recipe **MUST NOT** be given away, nor published in papers."

Just think of it! "Must not," is put in italics, and in capitals besides; and then she (that is, if it is really a woman who writes) says it must not be *published*. What is it we used to hear in our childhood about coming out of the little end of the horn? Well, don't you really think, friends, that this recipe business—the whole of it—from black pepsin to artificial honey, is, in this year 1893, coming out of the little end of the horn? Almost every thing that has ever been published and sold is lumped off for 25 cts., and a song-book thrown in. We have not received the song-book yet, but it may be a real good thing—who knows? May be I can sell it to Dr. Miller for 25 cts., and then I shall have all the recipes for *nothing*.

## HEADS OF GRAIN

### FROM DIFFERENT FIELDS.

#### SOME "FAX."

**Mister Root:**—I hev kept bees fer upwards of 15 years, an' hev sort o' stumbled onter sum fax wich I larnd heer in the Hoosier state. Thinkin' thay mite be of some good to yore readers I send 'em to you immediately.

The fust one is why bees swarm. Hit am allus bin puzzlin' to me just why bees ever got to swarinin', an' at last I am able to give the only kerrect explanashun. Git yer bible an' turn to Genesis 8, 17 verse wich sez, sez it: "Bring forth with thee every living thing that is with thee, of all flesh, both of fowl, and of cattle, and of every creeping thing that creepeth upon the earth: that they may BREED ABUNDANTLY in the earth, and be FRUITFUL, and MULTIPLY upon the earth." I emphersized some of them words so you might git the idee. I am satersfied, Mister Root, that bees will swarm when you an' me are gone from this airth a mity long spell. Hit aint no use to try to upset Nature's plan.

Nuther fax is, bees will raze drones in spite of all kreashun. You can't keep 'em from hit, cause thaive got to hev 'em, bound to hev 'em, an' can't keep house without 'em. Sum folks

claim foundation is a panacea: but I hev seen 'em knock the waddin' out'n of whole sheets of it when thay wanted a congregashun of drones.

Nuthern is, thick-top frames,  $\frac{3}{8}$  inch will keep away burrs, but a few braces will git thar jist the same.

Here's big fax: All spaces in the hive must be bee spaces: an' all angles in yer appliances must be right angles. Menny mistakes is made heer. Take yer V edge on Hoffman frames. Hit aint right angles, ner bee-space, so the bees 'll jist gaum an' smeer hit full of properlice.

Las' fax, Mistir Root, I hev observed that all jint's must be perfectly plum, square, and tite fittin'. The only improvement you shoold make on yer frames is ter make 'em so nice and true when thay kum together that thay aint no space nowhares; make the end-bars so thay will fit even 'thout enny joggin; hev the ends of the top-bars cut as slick as yer sekshun boxes, 'an the rabbits the same way; an' don't make 'em with much play so thay would jog at one er tother end of the hive, an' git properliced. I like the ones you sold yeer before last best, cause the top bars was thick and grooved so I could fasten foundation into the groove better.

Thay is sum more fax I will send you sum day if yore readers gives this enny appreciashun.

Alexandria, Ind.

E. E. EDWARDS.

["Fax" are what we want, and must have. A few more of 'em, even if they do demolish our pet schemes, will be acceptable.]

#### A WORD TO INDIANA BEE-KEEPERS.

Indiana bee-keepers who are to make an exhibit at the World's Fair *must* make application soon, or space can not be reserved for them. Thus far only a few have responded. Bees have wintered fairly well, and the honey season promises to be good. It is to our interest to have a good showing; and all expense of collecting, transporting, and arranging of exhibits will be paid from the State appropriation. Make application to Hon. B. F. Havens, Executive Commissioner, Indianapolis, Ind. In making application, state what you have to exhibit. Beeswax, comb, and extracted honey are wanted for the show-cases, while bee-appliances will come under another classification, but will be displayed near the honey exhibit. *Do not delay.*

WALTER S. POWDER.

Indianapolis, Ind., March 11.

#### HEAVY WINTER LOSSES IN BOX HIVES; DOVE-TAILED CHAFF HIVE ALL RIGHT.

Many bee-keepers in this vicinity, especially box-hive men, have lost very heavily this winter, and I anticipate a much heavier loss before warm weather comes. One box-hive man, who had 10 or 12 colonies last fall, has to-day but two living, and both of them would not make one good one. Another bee-keeper started with 25 or 30 colonies, and has now about a dozen. Several farmers who keep from five to a dozen hives have shared the same fate. "My bees died with plenty of honey in the hive" is what they say when asked how their bees are wintering. Their owners lay the blame to the deep snow smothering their bees. They use hives large enough to accommodate two or three colonies, and leave on the surplus-boxes from last summer, which makes their hives so open and barn-like that the air passes through the hive like a chimney or flue; and, of course, when the mercury went to 15° and 20° below zero, as it did here for a week or more, they soon ate the honey out from where they were clustered; and, being so stiff from cold, and not able to move out for more, they starved, with honey in the hive.

I started into winter with five colonies, two

in Root's Dovetailed chaff hives, and three in single-walled hives covered with chaff cushions and division-boards; and all are in good condition thus far.

Your Dovetailed chaff hive combination is almost perfection, as far as my limited experience goes, except the flat cover, which warps under the influence of the sun so as to require heavy weights to keep them down.

The Hoffman frame worked well last summer with me. They had no brace-combs and but very little propolis on them.

England, Pa., Mar. 14. J. N. PATTERSON.

#### A GOOD TESTIMONIAL FOR THE FIVE-BANDED BEES.

I keep half a dozen colonies of bees. I have Italian, three-banded, Holy Land (genuine, with the double-pointed ever available sting and the celebrated hysterical nervous temperament), and the five-banded (like all others, nominally so); and although the five-banded ones are not all true to their name, they are the only ones that gave me any surplus honey last season. I do not raise queens to sell, and am not partial to them, but think they are the best variety that I know of. They are gentle, very prolific, and work in colder (I do not mean cooler) days than any other bees I have ever had or seen, so I speak a kind word in justice to this much-abused race. Upon the whole, I do not consider success in bee-keeping is as much due to the kind kept as how; but I prefer the golden Italians, from my experience, and hope soon to see the day that will have them bred up to the standard—i. e., with five yellow bands.

Saltsburg, Pa., Feb. 22. GOLDEN ITALIAN.

#### BEES GOING TO MILL; ABSORBENTS AHEAD OF SEALED COVERS.

My bees are located only about six rods from a grist-mill, and last year they took a notion to run the mill to suit themselves. The first warm days they went in for bran, middlings, or any thing that made a substitute for pollen. They made the miller considerable trouble. This year they commenced on a sawdust pile that was left over from putting up ice. To prevent them from going to the mill again, I gave them some bran and middlings, and they commenced immediately on it. They have worked three days on it already, by the thousand. So far they have not molested the mill this year. Does it injure the bees to stimulate them so early? I would not give them any meal yet if it were not for the mill.

My bees have wintered very well so far. They are in first-class condition, but considerably in favor of chaff cushions rather than sealed covers.

Trail, O.

AMOS MILLER.

[Too much of the artificial pollen is rather bad in the combs. As a usual thing, we recommend not giving meal. It is liable to stimulate brood-rearing too early. Soft maples furnish natural pollen soon enough for our locality. Glad to get the "pointer" on absorbents and sealed covers.]

#### WHAT MAKES THE BEES DIE IN WINTER?

Is it the long confinement, or is it because they can not move from one place to another in the hive, that causes bees to die so? I think about half of every colony is dead, and a part of all. One colony died and left their honey badly stained a kind of dark red. Is it safe to feed it to other bees?

Bentonville, Adams Co., Ohio.

MILTON SHIPLEY.

[Bees die from both causes. Too long confinement, say for three or four months, is apt to cause dysentery in the one case; and in the other,

their inability to move to the stores by reason of a protracted cold spell for ten days or two weeks, causes them to starve.]

#### HONEY-DEW OF 1891.

The winter of 1891 was a disastrous one for bees in this vicinity. I had 35 stands, and lost all but 5. It was caused by honey-dew. It was so plentiful here that the leaves on the trees glistened, and the honey was as dark as molasses. Mr. Dadant said bees would winter on it, but he was mistaken. I sent some of it to Prof. Cook, as I saw in a paper that he wished to see some of it. I told him to send the result of his investigation, and have it published in GLEANINGS, and send me the number containing it. I have not received it yet.

HENRY J. ALVIS.  
Montrose, Lee Co., Iowa, March 5.

#### NO STOCK IN SEALED COVERS.

I do not take much stock in sealed covers, as I have seen bees winter in the old boxes full of holes on top and no protection. In fact, the best hives in spring have usually been such ones.

I wish to say about GLEANINGS, we appreciate your efforts, and it is eagerly looked for. No wonder your *old* subscribers stay with you.

I hope for a good season, as white clover is in good condition.

BYRON E. SMITH.  
Newman, Ill., March 6, 1893.

#### WELL FIXED AND THANKFUL.

I should like to have you see my place, as I think I have the best location for gardening that I ever saw. I am within three blocks of the public square of Seward, county-seat of Seward County, a town of over 2000 inhabitants. I am on the south side of town, and have  $7\frac{1}{2}$  acres of land, with a mill-pond on one side to irrigate from. My land is naturally very rich, but I get all the manure I want for hauling it away. I also have 36 colonies of bees in chaff hives, and engine and saws to make bee-hives for myself and to sell.

S. H. BEAVER.

Seward, Neb., March 11.

#### FOWLS NOT BEE-EATERS BUT DRONE-EATERS.

Dr. Miller asked for information in regard to fowls eating bees. I keep a good many varieties, and they have run in my bee-yard for the last 20 years. I have never seen one eat a bee. They will sometimes stand by the hive and catch drones when the bees are driving them out. Bees will always attack a dark-colored chick rather than a white one. I have often seen a chick snap and throw a bee from its feathers; but, instead of eating it, it would hurry away, with many shakes of the head and much fear, although probably not stung.

M. HURD.  
Marshall, Mich.

Bees are wintering poorly, especially those out of doors. Some have lost all, and others nearly all, with plenty of time left to lose the rest.

D. M. TORREY.  
Schoiacton, Wis., March 8.

#### BEES IN GOOD CONDITION.

I went into winter with 60 colonies, all living at date, with burlap and five inches of chaff over bees for winter protection. Bees had a good flight there Feb. 26 and 27; all colonies are in good condition.

W. B. WEST.  
Keystone, Ind., Feb. 28.

#### BEST METHODS OF QUEEN-REARING.

Will you be kind enough in your next issue to explain your method of queen-rearing; appliances; number of nuclei, etc., necessary for the rearing of a given number of queens? We



know how to raise a queen, but many of us do not know the most economical manner of requeening where it requires 100 or 200 queens or more. In this climate, queens lay the year round, and *wear out fast*; but, aside from this, bee-keepers who restrain swarming see that it is a subject of the first importance, and should receive more attention from the bee journals and writers. It is not to be expected that queen-rearers will voluntarily tell us their methods; but *you*, Mr. Root, as a journalist, will see that we are supplied with the desired information.

Santa Ana, Cal., Mar. 11. L. S. EMERSON.

[There are so many different methods of queen-rearing (and each one thinks his own way is best) that it is a difficult matter to decide in all of them. Much depends on whether you propose to rear queens to sell as a business, or to requeen your apiary the most economically and at the best time of the year. From your letter, we judge you prefer to do the latter. There is no time when the apiary can be requeened more cheaply than during swarming time, when there will be hundreds of large choice cells from select queens, from which to choose. If we were to requeen, we would not make any particular effort to hunt up such cells; but while we were performing other necessary manipulations we would be on the lookout for such, say about nine days old. These could be placed in nuclei, and allowed to hatch and become mated; or, as many think, it pays to have the old queens removed, or practically so, during swarming time. The old queens, or over two years old, can be killed, and these nice swarming-cells can be placed in the hive. By the time the swarming fever is over, there will be a nice young queen, in all probability, reigning supreme, and swarming will have been controlled in the meantime. By that time, too, the honey season will probably be over, and you will not have excessive brood-rearing at the wrong time of the year; but you will have instead brood-rearing just when you want it—early in September—giving the colony plenty of young bees to go into winter quarters. And, again, during swarming time bees are less apt to tear down cells given them or kill the young queens. The nicest time in all the year to requeen, or, in fact, to raise queens for any purpose, is during swarming time. If you desire to rear queens to sell as a business, we would recommend you to the Doolittle, Alley, or even to the plan given in *A B C of Bee Culture*.]

#### CORRECTION IN RAMBLER'S CONVENTION REPORT.

After reading the report of the Bee-keepers' State Convention, at Los Angeles, Cal., as made by the Rambler, on page 169, the spirit moves me to make some corrections. The idea of his trying to make out that he "kicked" when requested to correspond with the lady managers of the World's Fair exhibits for Southern California! Why, every one could see that he was "filled with rejoicement" as the Irish girl said, at the mere mention of it; and the only confusion visible was that upon the face of the Rambler. I have since learned that there are some very bright widows among the aforesaid managers; and as he confesses that Cupid still haunts him, who can tell what the result may be?

Mrs. J. F. McINTYRE.

Fillmore, Cal., March 15.

#### GOOD CELLAR WINTERING.

On removing my bees from cellar yesterday, of 36 swarms, full count, I report *not a swarm lost*. I do not propose to lose any, as they are

taking food nicely at entrances. They are all in Dovetailed hives, sealed covers. I moved a hive backward, off the bottom-board, about one inch, giving ventilation at front and rear; put into the cellar Nov. 10, taken out Mar. 17. The temperature was from 34 to 45°, usually standing at 40.

HARMON SMITH.

Ionia, Mich., March 18.

## HIGH-PRESSURE GARDENING.

BY A. I. ROOT.

### HOW TO MAKE A VALUABLE FERTILIZER WITH ONLY THE LABOR OF DRAWING IT.

*Friend Root*:—I want to tell you how we get a lot of fertilizer for just drawing it a mile and a half. As the snow goes off in the spring there is a heavy coating of mostly horse manure on all the paved streets in our village; this is hoed into piles in expectation of our team, which we start drawing the stuff on to the garden. Then comes the annual street-cleaning, done by the village authorities. They hoe it up and we draw it off. This gives us 60 or 70 loads; then the streets are all swept every Friday all summer. This gives us about 6 or 8 loads every week, which we draw off promptly, and I think it is worth nearly as much as stable manure which we have to pay one dollar a load for, and draw it too. As it is composed mostly of horse manure it will heat rapidly if composted.

Of course, we have to hire extra teams to keep this all going promptly, and sometimes it seems as if we could not attend to it; but where there is a will we can always find a way. Our streets and parks are lined with maples. At leaf-shedding time in the fall we devote a week to gathering these and drawing these maple leaves, which we pack under a large shed. These are used to give all our stock a bed a foot thick all winter. It makes me feel happy when I can go into the stable during a cold night, with the mercury below zero outside, and see our three cows and horses nearly covered with leaves. I know they are as comfortable as they can be; and what a big pile of manure we have in the spring! I think there is no bedding better than leaves. They rot readily, are short, and are a natural fertilizer, and we use them liberally. They cost us nothing but raking up and drawing.

Oneida, N. Y.

EDWARD B. BEEBEE.

[Your suggestions are tiptop, friend B.; and although ours is a town of only 2000 inhabitants, I have often thought of this very thing, and I feel sure it will pay. Since I have seen what a bushel of horse manure, gathered according to our friend Eugene Davis, just as the horses drop it, will do,\* I have felt sure that it would pay to have somebody go over the streets and shovel this up. The authorities would certainly make no objection, and I really believe a man would make good wages in a town of any considerable size. People might laugh at him for a while, it is true; but the laugh would soon be on the other side. Your ideas in regard to gathering leaves are also excellent. A good many times the wind sweeps them up into a corner where a good big load can be gathered very quickly. Somebody may suggest that it is small business. In one of Vaughn's catalogues I notice he advertises leaf-mold for florists, at \$2.00 a barrel. Now, these leaves, as you say, make the best bedding in the world, and I actually believe they are worth \$2.00 a

\*Better put your money into this than in nitrate of soda or any other chemical manure. I shall be glad to own up when somebody can show me I am mistaken.



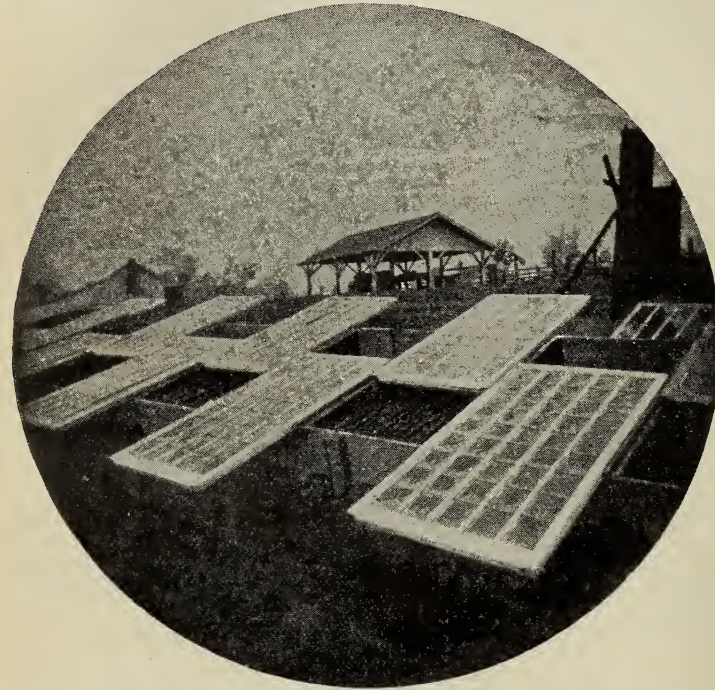
barrel when rotted down and mixed with the manure. Leaves and horse manure, forked over and composted with a third of their bulk of clean sand, containing no weed seeds, will make about as nice a material for growing plants and seeds as can be scraped up. In fact, I should like to see any mixture of chemical fertilizers go ahead of it. For some purposes, some composted sods would probably be a beneficial addition.]

**HOT-BED AND COLD - FRAME SASHES: HOW SHALL WE ARRANGE THEM SO AS TO PERMIT THEIR EASY REMOVAL AND REPLACING? SOME GENERAL REMARKS IN REGARD TO HANDLING GLASS.**

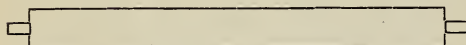
*Mr. Root:* — In your visit to H. R. Boardman's, described on page 145. I am reminded of one important item we left out in building our hot-bed frames, shown in the tomato book; that is, the cross bars to slide the sash up and

described by friend Day, on which the sashes slide. We have one such bed in use on our grounds. There are several reasons why I do not like it. First, the sashes, when slid either down or up, are in the way. But this is principally because we have only 16-inch paths between our beds. The ground where our plant-beds stand cost something like \$2000 per acre, therefore every inch of it must be made to do service. Second, when sashes are thus pulled down or pushed up, they are in a very dangerous position, with the heavy March winds we often have here. I very much prefer to have the sashes piled up at the end of each bed, as illustrated on page 104 of the tomato book. Third, those rafters, or strips for the sashes to slide on, are greatly in the way. As soon as we have got off a crop we are in the habit of turning the dirt over thoroughly with a spading-fork; and every little while we put some fresh manure under the existing soil. In all this

kind of work the bars will be a hindrance. When our sashes are off, we prefer to have a clear bed for the whole 50 feet of its length. Of course, circumstances alter cases. On friend Day's tomato - farm land is cheap, and he can afford plenty of room to slide his sash down or up as well as not; and I hope they do not have such fearful blows in the spring of the year as we do here. If I wake up in the middle of the night, and hear the wind blowing "great guns," I am very apt to get uneasy unless I know my sash are all in such compact shape that they will stand almost anything short of a tornado. Where a bed is completely covered with sashes, the wind seldom picks them up; but where a part of them are off and a part on, or where they are slid back, or even tilted, the wind is apt to get hold of them. Our present method of handling is to let them remain in their places



down on. Just give your friend Boardman a hint of it, and he won't have to lift the sash at all. They will slide with very little strength.



Short strip, 1x3x70 inches; long strip, 1x1½x74 inches.

This cross-bar should be made of 1 x 3-inch lath, to fit tight crosswise of the frame; then one lath 1 x 1½, set up edgewise on the slat above named, and nailed firmly. The ends of 1½ x 1 should project over 2 inches at each end. Crystal Springs, Miss., Feb. 23. J. W. DAY.

[In order to consider the matter mentioned by friend Day, I submit one of my Kodak views from the tomato book, taken while I was in Crystal Springs, Miss.

You will notice the strips of wood, or rafters, reaching from one side of the bed to the other,

until the air gets so hot that the steam comes out when a sash is lifted. If the weather is frosty, and it is freezing in the shade, we give ventilation by lifting every third sash by one corner and swinging it so one corner rests on its neighbor. If, however, the sun shines out clear, and the weather is warm, so it *thaws* in the shade, then we usually lift the sash off entirely.

Of course, much depends on whether you are protecting onions and cabbages, or tomatoes and cucumbers. Whenever there is a warm rain we want all the sashes off, and we prefer to leave them off all night if there is no danger of frost. The Weather Bureau is just now proving a great help to us. It often gives us notice 48 hours ahead of what we may expect, and thus enables us to save useless labor in handling sash, very materially. Many thanks to Uncle Samuel.

The open building in the distance is one of friend Day's packing-sheds. In these sheds he



also mixes his fertilizer; and in here his hands are also congregated when a shower comes up; and I believe he usually has some sort of work for them to do at such times. The building on the left is a house for the overseer of this special part of his farm; and it is the overseer's business to look after the plants, glass, etc.

#### CHEMICAL FERTILIZERS.

You may think that I am harping on this matter a good deal; but it troubles me exceedingly. We have just ordered 900 lbs. of nitrate of soda to be sent to one of our customers because he wished us to get it for him. He tried some last year, and felt sure that it was an advantage to his onions. I have been carefully scanning the agricultural papers, to see whether I can not find out why nitrate of soda produces no result on our soil. Several prominent teachers say quite emphatically that it produces the best results on ground that is already highly manured. If this is true, then an application on our rich plant-beds surely ought to show. But it does not show a bit. It does harm if you use too much; but if you don't use too much, it doesn't do any thing at all. I wrote to the Mapes fertilizer people, stating to them my troubles, and they have sent me a bagful of fertilizer that they are sure will do some good. It has been applied to every fifth row of our onion-plants in the beds. To be sure that we did not make a mistake, the boys whittled a notch in the side of the bed at every row where the application was put on. Perhaps you ask why I do not let well enough alone. Because I wish to "hustle up" the plants faster than any sort of stable manure will do it. Do some of you say, "There is not *any thing* that would do this"? Yes, there is. Slacked lime and guano raked into the surface of the bed, first one and then the other, will hustle up any thing I have ever tried it on. Then why not keep on using slacked lime and guano? Because I am not working and experimenting for myself. I am troubled, because I fear that the millions of dollars that our people are now putting into chemical fertilizers is blundering in the dark. You may say that almost all our agricultural papers are against me. You may also suggest that my soils are so rich, like friend Terry's, that I do not need chemical fertilizers, and that I must experiment on poorer soil. But our teachers are by no means agreed on this. Peter Henderson, in the first edition of his "Gardening for Profit," spoke about using *tons* of guano. I can not learn that anybody is using guano now. It costs about twice as much as many of the fertilizers. Why, I have been disappointed so many times, that, if I can just see some good result apparent in those onion-rows, I shall be ready to sail my hat in the air, and hurrah. Yes, if I can find a fertilizer in the market, in common use, that will do as much good as lime and guano, I shall be exceedingly glad. Another thing: If you examine carefully the reports of the various experiment stations, you will see that they pretty nearly agree with me; at least, they say that, with present prices of farm products, they do not see how a farmer could make it pay to buy phosphates. Now, how is it with stable manure? Why, it shows a result sharp and clear. I do not think I ever made an application of stable manure to any crop in my life where it did not show a good result right from the word *go*.

#### SUGAR-TROUGH GOURDS; SEEDS SENT FREE.

*Mr. Root*.—I have about a peck of good fresh sugar-trough gourd seed that I dislike to destroy. If any one will send a two-cent stamp for mailing a package I will send some seeds free. The gourds are large, convenient, and useful.

They make cheap and excellent troughs for watering chickens; good nail-boxes; nice hanging baskets for the ladies' flowers; good to keep seed in, etc. If they are used to water bees from, they should first be thoroughly cleansed and soaked in water after the inside is taken from them, to sweeten and purify them. C. H. MURRAY.

Elkhart, Ind., March 16.

[Friend M., I am inclined to think you have got yourself into a muss; however, we will let your offer go, and see how it turns out. After the few seeds are all gone, you will have a cent left to buy a postal card, and another to pay for your time in writing to your friends that they are too late—the seeds are all gone.]

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### OURSELVES AND OUR NEIGHBORS.

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Let not thy heart envy sinners.—PROV. 23:17.

Before I get down to the thought embodied in our text I want to talk a little about something else. This is a day and age when it seems to be quite the thing to want to get something for nothing. Farming doesn't pay; and earning money by day's work is slow and laborious. Yes, it takes lots of hard work to get even *honey*; and we have to sell it at a low price, very often, even then. The average Young American is likely to say in his heart, if he does not out loud, "I should like to get a living some easier way. I want to have some fun, and see something of the world; but if I stick to the farm or apiary it will keep me busy all my life to make both ends meet."

Now, I am proposing to discuss what has been called the gambling mania, somewhat, in this talk; but I do not believe I will begin by telling how wicked the world is. I think I will start out by giving you some instances that show there are lots of good people who do not want money or property or any thing else without paying for it. Yes, there are boys and girls—quite a lot of them—who say by their actions if not by their words, "I do not want any thing without giving a just and fair price for it. Whatever I have in this world I wish to earn honestly, and pay for it a fair equivalent. I do not want *something for nothing*. I propose to *pay* my way as I *go*."

Oh how I do love to be in such a crowd of people! Don't you, my friend? They are the *salt* of the *earth*, and through them is the redemption of mankind to be attained. Only yesterday a good friend of mine, who is well along in years, dropped in during our noon service. He has just recovered from a long fit of sickness, and neither the doctors nor his friends had much hope that he would ever be up again. We were glad to see him among us. After he had by request made the closing prayer, I turned and said to him, "Now, friend G., you will have dinner with us, I am sure. Our dinner is all ready, and it will be handier and easier for you to take dinner with us than it will anywhere else." He replied:

"Mr. Root, I shall be very glad indeed to take dinner with you, but it must be on condition that I pay for it, just as the rest of your people do. I like to come in here often, and I like to stay for dinner; but I do not feel free to do so unless I pay my way. You see, this is a public dining-room. All your helpers have to pay for their dinners; and if I can pay for mine too, then I shall feel free to come in real often, as I love to do."

Again, a little time ago I chanced to take dinner with W. I. Chamberlain, at a restaurant in Cleveland. We were discussing the book on

tile drainage, which was then just ready for the press. We had a very nice dinner. When the waiter added up the bill of fare he made a mistake of five cents, and friend C. called his attention to it. I suggested that, perhaps, the waiter meant to lump it in at a little less than the amount it figured up to. "No," said friend C., "that is not the way they do here. Their articles of food are very nice and very choice, and their price for such is exceedingly low—they figure very close, therefore every one gets what he *asks* for, and pays exactly the regular printed price for what he gets."

The waiter apologized for his mistake, and thanked our friend for correcting him. Then my good friend added something like this:

"Mr. Root, I want to be just as careful in correcting a mistake that takes money *out* of my pocket as I would be in correcting one that puts money *into* my pocket."

W. I. Chamberlain would never have been held in such high esteem everywhere he goes were it not for the fact that he lives up to just that line of conduct. I do not believe that any temptation could induce him to even *want* what belongs to somebody else, without rendering a fair equivalent. You may say these are all *small things*, that I have mentioned. It is when there are hundreds and *thousands* at stake that men get to be rascals. Well, I am glad to give you some instances where large amounts do not tempt good men. Friend Terry is not very far from friend Chamberlain. By the way, I wonder if there is not a good "atmosphere" around the vicinity and neighborhood of that Western Reserve college at Hudson, O. It was started almost as early as the Oberlin school, and it has furnished the world with some grand good men. Well, friend Terry has got to be such an authority on farming matters that inventors of farming machinery are often anxious to make him a present of a sample implement, in order to have him try it. I think some firm wanted to make him a present of a potato-digger; but he told them that, if he was to give to the wide world his opinion in regard to the machine, he didn't want his judgment biased by a present. Then they proposed to let him have one at *half* price. But he would not have it at *that* price either. He said he would try the machine, and if it suited him he would pay the same price that other people paid; then, if they wished, he would give the public an honest opinion of its work, including the defects as well as its good points. You may say *this* was on a small scale too, comparatively. Well, a few days ago, by the failure of some lawyer or banker, the Governor of the State of Ohio was made not only penniless, but it would take more money than he had in the world to make good a note that he had signed with the banker who became bankrupt. There was much speculation for a time as to what Gov. McKinley would do. Without a moment's hesitation he turned over all his earthly possessions; but as it took more than one hundred thousand dollars to pay the debt, all his possessions would not cover it. His wife, however, had property of her own to the extent of some \$65,000 or \$70,000. Without a bit of hesitation the brave woman came forward and made good her husband's name; but in so doing it took *her* last copper, almost, and he stood before the world with a fair untarnished name, such as he had always borne; but he and his wife both had to commence the world over again. There was a good deal of murmuring among the people. Her money was given her by her father. They said that she had no business to throw it away in that way. As soon as I heard of it I said, "Such an example as this will surely not go unrewarded. The people of

our land will spring to his rescue, and I should not be at all surprised if the whole sum were made up by donations, in a few weeks." While I was speaking (although I did not know it) the very thing I had predicted was being done; but, lo and behold! neither our beloved Governor nor his good wife would take a copper of the money. The great world of good people remonstrated: "Dear friend M., you *must* take it; we enjoy giving it to you. Accept it as a token of our regard and esteem; and may God help you to continue setting such an example for the rising generation and the rest of the world." But our good friend and his heroic wife would not be moved. Again and again was the money sent back. I had an inward conviction, that, in some way, I did not know exactly how, the good will of the people that was rising constantly would outwit their favorites; and when I was told that money had poured in from anonymous sources until the whole hundred thousand dollars was made up and more too, I opened my mouth in astonishment. Nobody knows—not even the Governor himself, nor his wife—who gave a copper of it. Misanthropes need not say in this case that it was to make a show, or that it was for the sake of the publicity that it would give to the donor. Nobody knows *who* gave a cent. Now, who shall say that, in view of the present craze and mania for gambling, prize-fighting, and the like, there is not any thing *good* in the heart of man? Who shall say there is not a hungering and thirsting after righteousness, in the hearts of the masses? Who shall say that we are all, even the *best* of us, after the almighty dollar, when we come right down to it? What prompted these people to pile up their money until the daily papers told them to stop—that there was enough and more too? Why, it was a simple love of justice and right. We admire from the bottom of our hearts the man who has got the backbone and nerve to make his "*I—promise—to—pay*" good, even if it takes the last copper he possesses.

Perhaps I might mention that many good people have justly criticised this fashion of underwriting for somebody else when the obligation amounts to more than he (the security) is worth. Of course, this is wrong. But there may be palliating circumstances. I have been told that the man for whom Gov. McKinley underwrote was the friend of his boyhood; that he even advanced money for him so that he might get an education when he never could have got it otherwise. Under such circumstances a generous and large-hearted man would risk almost any thing, especially for one whom he trusted with a faith that was like unto the friendship between David and Jonathan. So you see our story ought to point out to us more than *one* great moral.

Now, friends, I am sure you will not set me down as a "calamity howler" when I say that a great proportion of our people—yes, and a great proportion of our "neighbors," including some of *ourselves*—are not so scrupulous and conscientious but that we can take something for nothing. Our children, when they grow up, see so many instances of where people get something for nothing that they become demoralized. They think steady hard work is too humdrum and slow; and instead of heeding the injunction of our text, they, in their hearts, *do* envy sinners. Who blames them? When I was in New Orleans I told you of how desperately in earnest good people were in regard to the lottery business, and especially concerning the Louisiana State Lottery; and when they did get it put down, the rejoicings came to us through their letters. Did the great lottery company give it up? By no means. If they



could not ply their trade and secure victims in the United States, they concluded, like our venerable friend Hall, of the water-cure, that some foreign country might afford a field for their work; and so they offered a *million of dollars* a year for the privilege of running the lottery business unmolested in the little republic of Honduras, in Central America. There is a very significant fact here. These lottery men are keen and sharp. They had plied their trade so long, and knew humanity so well, that they risked this large sum. They have learned by experience that ignorance and superstition constitute the best soil in which to plant their seeds. There is not a nation on the face of the earth—that is, where the people have any sort of property—where you can not start the gambling mania and the mania for strong drink. Just let them get a taste, and, if they have any property to gamble away, the lottery men will get it. While in New Orleans I asked the question how this company could make it pay when everybody seemed so tremendously up in arms against it. The reply was:

"Why, Mr. Root, they get their money from ignorant, unlettered people. The colored population are crazy on it. If they have a dream a little unusual, they jump to the conclusion that it is an omen of good luck, and that it has something to do with numbers. In the same way, the most trivial incident of every-day life is interpreted to mean that they shall buy a certain number and get rich;" and when some one near them does get a prize, the whole community goes wild over it, no matter whether this affair is a put-up job or whether somebody actually drew the lucky number in good faith—if it is possible to have any "good faith" in the matter at all.

When these villainous thieves go to Honduras (if they ever do go), all they will need to do to start the craze is to give away a little money in the shape of presents, and their million of dollars will come back with tremendous interest.

A little over a year ago I told you something about the temperance and morals of Mitchell, Dakota. Are they holding the fort? Last summer, when they had their corn palace, the crowd was so great, and the excitement ran so high, they could not stop their revelry when Sunday came. The proprietor of a merry-go-round began bartering with the mayor and town council for the privilege of running his machine on Sunday. Mitchell is a godly town, and there are many earnest and devoted Christians there. I presume this man was told at first that he could not run his business on Sunday for any sum of money; it was demoralizing and wrong. But finally, when he offered the town \$200 for said privilege, even though they admitted that it was wicked, and a wrong thing to do, they decided that, if he could afford such a sum as that, they could not very well stand out. If I have been misinformed, and if this statement is not true, I wish some of the good friends in Mitchell would set me right. The point is, where money enough is offered, and especially where there are people of tolerably good standing who are in favor of letting up on time-honored customs, there is great danger that Satan will gain the day.

Trejoice to know that there is *one* paper in our land that is not afraid to speak right out plainly and clearly, no matter who gets offended, and no matter who takes exceptions. That paper is the *Rural New-Yorker*. There may be religious papers, and papers of wide influence, that are taking the high moral stand the *Rural* does in such matters; but if so, I have not seen them. Will somebody call my attention to it, if such there be? Here are some lines that I

clipped from the *Rural* I was reading last evening:

For years Louisiana was the gamblers' paradise;

For years they held her firmly with a throat-grip like a vise.

Till, stung to desperation, from her sin and shame she rose,

And thrust the evil from her and shook off her cursed foes.

Thank God! Louisiana from the sinful curse is free. But shame on you, New Jersey, that you weakly bend the knee.

Burn up your honest charter! Turn your heroes to the wall.

Rebind the eyes of Justice that she may not see your fall.

Toll bells in all your steeples; let their mournful notes proclaim

How Jersey's boasted honor has been turned to blackest shame.

Now, I do not know how this matter in New Jersey is coming out. I hope the above may be held up before the eyes of the powers that be, in New Jersey; and I hope that the Christian people who are leaving no stone unturned to circumvent the schemes of gamblers and politicians will come out ahead. Let us remember them in our prayers.

There are some other things connected with this gambling mania that I wish to mention. Some of you may think I am notional, and think I make a big fuss about nothing. My friend, if your children were playing with matches close by a strawstack, in a dry time, you would not think me meddlesome, even though I got over on to your premises and kicked up a row among your children; and I assure you the circumstances are much the same. A while ago there was an unusual demand for pumpkins from our market-wagon. I asked what it meant, that pumpkin pies had all at once taken such a hold on the affections of the people. The man who drives the wagon replied, "Oh! it is not the pies, Mr. Root. Every child in town is busy counting the seeds in a pumpkin in order that he may be able to guess with some degree of accuracy. You see, they are offering prizes to anybody who comes nearest to the exact number of seeds in a certain pumpkin or squash."

Some of our agricultural papers are offering large sums of money in gold to the one who will guess how many beans or peas or seeds there are in a jarful. The thing is varied in a thousand ways. The proprietors of a certain kind of soap offered a sum of money to the person who would write the best advertisement in the form of a poem for their particular soap. The *Sunday-School Times* tell us that over 38,000 "poems" were written. Just think of it—38,000 people worked hard; but only one, or a small number of them, got any pay at all. A good Christian friend of mine suggested there might not be any thing particularly wrong about it.

Suppose you set a thousand men at work sawing wood. Each one saws and piles up a cord; but instead of paying each one of the thousand a fair price for his work, you give the money all to one person and the rest get no pay at all. They went to work by your direction, with some expectation of getting some pay. One man got a thousand times more than the proper price for cutting his cord, and the rest got nothing. Is there any glimpse of a gambling mania in this direction? Some of you may urge that writing poetry is different from sawing wood. Yes, it is different. But if I were going to do one or the other for pay, I think I should prefer to saw wood. The *Youth's Companion* offered a large sum of money for the best story. It seems to me it was about keeping bees, but it might have been something else. One reader of GLEANINGS worked hard a great number of days and nights, and finally

neglected her work and her family, and sat up the whole of one night. She did not get any thing for her work but disappointment, and there were *thousands* who did likewise. You may say that it stimulated their ambition, and gave them a wholesome exercise in mental drill. So does sawing wood give one wholesome exercise; but what would a man think if you were to tell him that the muscular exercise he had had was all the pay you thought he ought to have. One of our neighbors went to a clothing store in the city of Cleveland, and made a purchase. They asked him to draw a ticket, or pull out an envelope, or something of that kind, and he drew a *pony*. It was a nice little animal, and the children were crazed with the idea that he got that pony by just drawing a lucky card. He did not have to work for it at all. In traveling through different towns, many such ponies and carriages were exhibited to my—not admiring gaze. I admired the pony and carriage, perhaps; but the feeling that this beautiful little animal was used as a medium for encouraging the gambling craze made me feel sick at heart; yet professors of religion, and, I fear, some ministers of the gospel, stood by and looked pleased. Thank God, the pastor over us here is not one of that sort. He said, the other evening, that any scheme that could be devised to get money or property, without rendering some kind of equivalent, was gambling. Oh how much better it would be for our nation if there were more people who thought so! How much better it would be if there were more parents and teachers who maintain that this gambling craze is even worse than giving the children matches and a strawstack near our barns and dwellings! In San Diego, Cal., when real-estate speculation got to be a gambling mania, and nothing else, a bystander told me that he saw a carpenter who was a good workman, and who was receiving large wages for his work, throw down his tools and say, "I'll be — if I am going to earn *my* money by slow day's work when everybody all around me is making it hand over hand, without lifting a finger." Very likely he was not a profane man; but the excitement was such that nothing but an oath would fit the occasion; and he became a swearing man, and a gambler too, at the same instant. His employer could not induce him to go on and finish his contract. I was on the ground where this thing happened. I visited the place again three years afterward. Did the gambling fever then run rampant through the town? You probably know already how it turned out. In three years' time, the pretty little homes that had been built up in that beautiful land of sunshine and flowers had gone to ruin and decay. Bankruptcy, suffering, and desolation were the fruit. Let us guard carefully these little ones that are growing up around our heartstones. Let us explain to them the end and result of guessing at the number of beans in a jar—riding, running, wrestling, or any thing else for a prize of some sort; and let us teach them to refuse to *touch* any of these good things that God has provided for us, unless they can feel that they have honestly earned them, or rendered a just and fair equivalent of some kind.

Since the bicycle has been perfected as it is now, and since it has come into general use, as a matter of course a certain class have tried to use it as a means of gambling, like horse-racing and other contests of skill and endurance; but all of our readers may not know that the L. A. W. (League of American Wheelmen), an organization numbering toward 50,000, has been from the first most positively and vehemently pronounced against riding for sums of money, or betting in any shape or manner connected

with it; and, in fact, any member of the L. A. W. is at once expelled in disgrace when he is found guilty of any thing in this line. Of course, the racing and betting classes are against it, and they are waging an unceasing warfare to break down this ruling that is really the backbone of the organization.

I have hardly space left to mention this matter of offering prizes for the biggest crops. Some agricultural journals have been doing this, and also a great part of our prominent seedsmen. It may be urged that these large sums of money have a tendency to stimulate and encourage improved agriculture, and perhaps it does in one direction; but I believe I would let agriculture go unstimulated and unimproved before I would run the risk of sowing seeds of the gambling mania. There may be differences of opinion in regard to this matter; but let me remind you, friends, that you have never seen T. B. Terry's name among the contestants for the biggest crop of potatoes, no matter what prominent journal offers the \$500 in gold. Inventors of chemical fertilizers are also offering large sums of money to those who will produce the largest crop by the use of their special brand. I am sure this is mischievous. Hundreds of earnest hard workers in the soil are, by these reports, encouraged to invest unduly in these brands of fertilizers, overlooking the fact that it is as much the man who uses them, as it is the fertilizer itself, and often more. The great exposition of 1876, recognizing the danger and quarrels that would probably result from offering prizes, you will remember, offered no *competitive* prizes of any sort. They rewarded each exhibitor according to the merit of his product, without any reference whatever to what his neighbor had done. Is not this by far the better way?

Our stenographer suggests, right here, that my teachings might do away with premiums at fairs. I have thought of this; but should not fairs follow the example of the great exposition I have mentioned? Let the judges award each exhibitor (according to merit) something to pay him for making the exhibit, the amount to depend on the care and pains he had taken, and have it managed so as to encourage all and discourage none. The man who takes something that he *did not produce*, from one fair to another, just to get the *money*, doesn't need much encouragement. How often do you hear some disappointed exhibitor say, "Well, this is the last time you will catch me bringing any thing to a fair to compete for a premium!"

Righteousness exalteth a nation, but sin is a reproach to any people.—PROV. 14: 34.

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Order No. 18,061, shipped Feb. 21, received, and gives entire satisfaction. J. B. GRIFFIN.  
Cat Creek, Ga., March 13.

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The display of my "ad" in GLEANINGS is all right, and I am already getting answers from it. It always pays me to advertise in GLEANINGS. Long may it live.  
Bristol, Vt., Mar. 13. A. E. MANUM.

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I received the extactor all right, and was well pleased with it; and after trying I find it works to perfection. I tried it on honey taken last fall, and it worked splendidly. JOHN H. WHITMORE.  
Minard, Mich., March 16.

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Your articles as religious matter from time to time give a little Sunday reading for the family, and, I am sure, add very much to the value of the journal, as it is thereby appreciated by the women or other members of a family, even if the bee-man does not see any good in it; and as the money that pays for it comes out of the family, they each have a right to receive some return in the pleasure of its contents.  
Assumption, Ill., Feb. 20. WM. N. ROOT.





Can a man take fire in his bosom, and his clothes not be burned? Can one go upon hot coals, and his feet not be burned?—PROV. 6: 27, 28.

REPORTS are coming in, showing that cellar-wintered colonies are doing nicely. We notice that Dr. Miller reports that 94 percent of his are alive. He wants to know why we did not put the bees and vegetables together in one cellar. Bad advice for a doctor; and, besides, Mrs. Root would not have the two together.

We notice that the *Progressive Bee-keeper* has passed into the hands of the Leahy Manufacturing Co., of Higginsville, Mo. There is no doubt that the journal will be as successfully conducted as before; and in the meantime we indulge the hope that Bro. Quigley will still remain, to a greater or less extent, at the editorial helm.

DR. MILLER says, in *Stray Straws*, in another column, that our top-bars are not "practically  $\frac{1}{8}$  thick," as we explained recently in an editorial. Beg pardon, doctor, but you have not seen our very latest; and the difference between the latest form and the top-bar  $\frac{1}{8}$  thick is very slight, and we are sure the bees will not take any particular account of it.

OUR subscribers will oblige us if they will overwhelm us with reports showing comparative tests this winter between colonies under sealed covers and colonies packed with an absorbing cushion. This winter will give us good data for comparison; and it is only by comparing scores of reports that we can get at the truth. We have not a particle of bias either way. If the sealed cover "must go," let it do so.

THERE are very few writers who can criticise, and yet do it so nicely as not to give offense. There are many who make an attempt at it, but their criticisms are bungled up with so many apologies, and "hems and haws," that the real force of the criticism is lost. Our friend R. L. Taylor has the happy faculty of giving straight clean criticism, without the apologies and without offence to the criticised. We need several such writers in our ranks; and we hope that Mr. Taylor will keep his pencil a pushing. If it pushes us over we will thy to get up if we can.

A VERY interesting biographical sketch of a comparatively new writer on bee-lore, Miss Emma Wilson, appears in the *American Bee Journal*. It will be remembered that Miss Wilson has written considerably for the *Ladies' Conversation* of GLEANINGS; and her pithy, brief articles, have, as a general thing, contained a good deal of value, not only to the bee-keepers of her own sex, but to those of the sterner sort. We have been thinking for some little time back that our readers would like to see a picture of her, but Bro. York has got ahead of us. Well, we are rather glad of it, because he has done it so well.

AMONG the queer things that find their way into the coin-slot automatic phonographs that are found in many of our depots throughout the country is a copper medal, or sort of coin, bearing the following inscription: "R. S. Torrey, inventor of the Maine State bee-hive. 1864. Bangor, Me." On the reverse side is a shield with a motto across the front, with the word "Union." It is about the size of an ordinary penny, and

was slipped into the coin-slot of a phonograph in Cleveland by some person who *thought* he could cheat the machine and thus save the regulation nickel. The phonograph will not only talk and sing, and dish up any kind of music, but it is smart enough not to be "taken in," even by a *man*, although it "took in" his bogus nickel. The phonograph people forwarded the coin on to us because of its peculiar inscription. Who knows any thing about that "Maine State bee-hive"?

G. W. YORK is making the old reliable *American Bee Journal* fairly boom. Every page shows that he is putting a good deal of hard work on it, and we hope that his subscription-list may roll up strong; for we have always noticed that, when any of our rival publications are booming well, it helps boost along GLEANINGS; so you see we are interested from a selfish point of view. Why is it that editors of publications in other lines fail to see this? They look upon a successful rival as dangerous to their own success, and then write more like an idiot than a responsible being. But perhaps a point should be made here: An editor who takes no interest in his own publication but to get out copies of his paper filled with "stuffing" will almost surely suffer if there is an energetic rival in the field. He who is jealous of a rival, confesses the weakness of his own efforts in the journalistic line, and he had better step down and out. Such kind of editors are not wanted, and sooner or later they are *obliged* to step down and out.

#### MR. ALLEY AND THE PUNIC BEES, AGAIN.

REGARDING our editorial in the last issue, page 228 on Punic bees, Mr. Alley desires us to say that he did not mean that *we* were unfair. We are very glad to be corrected, as we do not wish to do Mr. Alley any injustice; but his language by immediate connection conveyed that impression quite strongly, and was so understood by some of our correspondents. But it was not Mr. Alley's intentional or unintentional statement in regard to the attitude of GLEANINGS toward Punic bees, to which we took exceptions, but his disposition to make it *appear* that the Punic were *very desirable*, and that "nearly every issue" of his paper contained favorable unsolicited testimonials. We do not think for a moment that Mr. Alley intentionally misrepresented, but we felt very sure that he made the statements offhand, without properly investigating the truth, and we only desired to show he was a long way from being correct, and that the Punic were decidedly undesirable. We are glad to feel that Mr. Alley is conscientious in the matter, and that he has no desire to inflict any undesirable race of bees on American bee-keepers, simply for the "filthy lucre" that there may be in it. If other queen-breeders have abandoned them he can not afford to sell them.

#### SHALLOW BROOD-CHAMBERS AND THE SHAKE-OUT FUNCTION CENTURIES OLD.

IN another column will be found a very interesting and valuable communication from our friend Mr. Frank Benton, wherein he says that the shallow brood-chambers about six inches deep have been used in *Carniola* for centuries. Incidentally, further on, he tells how the "shake-out function" is practiced by the native bee-keepers with these same brood-chambers. All of this is exceedingly interesting—the more so as Mr. Heddon has claimed, if we mistake not, that these ideas were entirely new and original with himself. We have seen references to both of these things before, but were not aware that they were ideas that were older than almost any thing else used in apiculture. The

fact that the shake-out function is and has been practiced successfully by the Carniolan bee-keepers, and was also employed by Mr. Benton in making successful catches of queens, goes a long way toward establishing its practicability. By the way, is it not a fact that Carniolans are better adapted to shaking out of a hive than Italians are? The latter don't "shake worth a cent."

#### THE BICYCLE AS A NECESSARY ADJUNCT FOR THE OUT-APIARY BUSINESS.

ON page 260 of this issue, our old correspondent J. A. Green has a valuable article on the bicycle—its probable future and its value to the bee-keeper. We endorse every word of it, and we wish to emphasize especially what he says to the effect that a wheel is not an expensive luxury, but one of the "most practically useful inventions ever produced." We would no more think of managing a series of out-apiaries, without a bicycle, than we would think of going without an overcoat during winter. They are both comforts in their way, and, as we view it, equally necessary. You don't believe it, do you? May be you will some time. But you say you can not carry luggage to the extent of 50 or 100 lbs. Our own experience, as expressed in these columns, has shown emphatically that this is a mistake. As we said in our essay at the Michigan State Bee-keepers' Association a year ago, by a little forethought and a little headwork one can arrange matters so that the heavy carting can be done a good deal with a livery team in the spring and fall; and in the meantime the apiaries can be visited, and 25, 50, or even 100 lbs. can be carried back and forth quite easily on the wheel. The bicycle will nearly if not quite take the place of a light horse and buggy. It will cost only half as much, and the cost of maintenance is practically nothing. The bees may sting like hornets, but the wheel pays no attention to it. It is never obstreperous, and can be run for all the life there is in it, without being inhumane to it. Our last trip last fall was a run of 42 miles in three hours and a half. If you are not a bicycle-rider you'll not believe this.

#### TAYLOR'S METHOD OF FASTENING SHEETS OF FOUNDATION TO SECTIONS.

R. L. TAYLOR describes a very simple and practicable method of putting foundation into sections, in the last *Bee-keepers' Review*. As the editor has boiled down the description of the *modus operandi*, and the tools, we reproduce it here:

It works upon the hot-iron-melted-wax plan. Attached to the upper surface of a board are perhaps twenty little, nearly square, blocks of wood, each exactly large enough for a section to slip down over it and leave a  $\frac{1}{8}$  space at one side. We may be getting a little ahead of our story, but we may as well say, right here, that, when a section is placed over a block, it is so placed that the  $\frac{1}{8}$  space comes next to the top-bar. The upper surface of these blocks is not level; one side of each block being perhaps half an inch higher than the opposite side. Upon the upper surface of each block is a little sliding platform  $\frac{1}{4}$  of an inch in thickness, and nearly as large as the block. When one of these little platforms is slid, it "slides down hill" upon the slanting surface of the block underneath. To keep these little platforms in place, a  $\frac{1}{8}$  square strip of wood is tacked to the bottom of each. Each strip of wood extends nearly the whole width of a platform, and fits into a corresponding groove cut into the block beneath.

The work of fastening foundation into sections is performed as follows: Upon each of these platforms is placed a square piece of foundation that will nearly fill a section. After putting on a piece of foundation, a section is slipped on over the block; and the height of the block and platform combined is such at the lower edge that, when the fingers are placed upon the foundation, and the foundation and plat-

form "slide down hill," the lower edge of the foundation comes in contact with the center of the underside of the top-bar of the section. Before the sliding operation is performed, however, a piece of hot iron shaped something like a broad, thin chisel, or square-pointed trowel, is slipped down between the top-bar of the section and the edge of the foundation; then the latter is pressed against the iron, and as the iron is quickly withdrawn, the melted edge of the foundation is brought in contact with the top-bar of the section. By the time the twentieth piece of foundation is fastened, the operator can begin a No. 1, and remove the sections in the same order that the foundation was put in, placing them in the supers. The irons for melting the edge of the foundation are two in number, one being heated over a gasoline-stove while the other is being used. Each iron is nearly  $\frac{1}{2}$  of an inch thick, as wide as the inside of a section, and furnished with a handle. To each iron is also added, upon the back side, a story that strikes the edge of the top-bar of the section thus preventing the iron from being pushed down too far, which would keep the wax in contact with it for too great a length of time during its withdrawal.

This plan is a modification of the idea contained in our Daisy foundation-fastener—with this difference, that the Daisy is a machine and his is a tool. It has this advantage, that the edges of the sheets have an opportunity to cool and make good contact. We have no difficulty in this line with the Daisy foundation-fastener, except in full sheets, and then we work a little more slowly. Mr. Taylor uses the hand implement very much as a tinner would use a soldering-iron—when one becomes cool, the other one is used.

#### R. L. TAYLOR'S CRITICISMS ON THE SELF-HIVER.

IN the last *Bee-keepers' Review*, R. L. Taylor has an interesting article on self-hivers versus queen-traps. He has been accustomed, he says, to look upon the struggles of the half-dozen inventions of self-hivers as a source of amusement; and he can not see that, so far, they even promise any thing. The queen-trap, he thinks, will accomplish all that can be expected of the self-hiver, be much cheaper, and easier of inspection of what has been actually accomplished; and he adds:

If there has been swarming where traps are used, the apiarist, by walking rapidly along the rows of hives, discovers at a glance where it has been, but how is it with the hivers? Suppose you have an out-apiary of 150 colonies, you must raise at best 150 covers to determine where the swarming has occurred; or if the Pratt hiver, the one that seems to be in the lead, is used, you must lift 250 old hives with the supers, heavily laden, as they are likely to be, to determine from which hives swarms have issued, for the hiver is put under the old colony; and this every time the apiary is visited, if justice is done. The editor of GLEANINGS says of Pratt's tiering-up hiver: "The lifting of the upper story is no great objection." Whew! I feel exhausted at the very thought of it. And then suppose three or four or five swarms had come out at the same time and had united, as they would surely do if they were at all like mine, and had gone into one of the hives together, you would be sure the hiver was a great success, but you would be quite oblivious of the three or four queens hid away in the corners of as many other hives with a teaspoonful of bees each.

This looks as if our friend R. L. had rather "laid us out," and perhaps he has; but when we spoke of "lifting" the upper story, we remember we did not say just what we meant. What we have been in the habit of doing is, not to *lift* but to *slide* the story around "cat-a-cornered," and a glance down one of the corners shows what has been going on. Not desiring increase, we let 'em alone whether they swarmed or not. But our experience last summer taught us that we do not need to do even the sliding act. The Pratt hivers that we used caught the bees—yes, the whole colony—and, in a majority of cases, we just simply left them alone for a week, for it made no difference to us whether the bees had



warmed or not and we examined them only as soon as other work required it. In one or two instances the colonies did not swarm; but the bees went below and filled up a set of extracting rood-frames with honey. But perhaps our friend Taylor would prefer comb honey instead of extracted. Well, in that case the difficulty could not be entirely avoided; but we would suggest that an extra super be placed under the automatic swarming-board, together with the rood-chamber, and then the bees could be left for a week or ten days, or even longer.

It is true, as he says, that several swarms may come out together and unite; but, if we are correct in our observations, they are not nearly so apt to unite when none of them have a queen. Realizing that something is wrong, they go back to headquarters to find out what the matter is; and having done this, they do just what we want them to do—go into the new hive. Now as to the expense of the Pratt hives being greater than the traps, we will say they are nearly as cheap. All that is required is a honey-board with the Pratt bee-escapes, the same being used with hives and supers, that every apiarist is supposed to have on hand.

Referring to the Alley traps, we would say that we have used them in just the way Mr. Taylor speaks of; but unless we were present on the day that they came out, and took care of the bees clustering around the traps, mischief followed sooner or later. The bees, having been thwarted in their efforts to carry out the instincts of nature, remained in the hive, frittered away their time doing nothing, and finally ended up by killing the queen. What we want is something that may not require attention for a week or ten days. Out-apiaries are frequently left that length of time.

In conclusion we will add that we think, with the editor of the *Review*, the automatic self-iver promises well. But this is really all we dare say at present, for the experiments that have so far been made are not of sufficient magnitude to give us *entire* assurance of their success.

#### ANOTHER SIMPLE MEANS FOR DETECTING THE PRESENCE OF GLUCOSE IN HONEY; A TEST THAT EVERYBODY CAN APPLY WITH VERY LITTLE EXPENSE.

In another column will be found a translation of a valuable article taken from the *Bienen-züchter*, describing simple tests for detecting various spurious mixtures in honey. The one given for detecting the presence of glucose—namely, the addition of pure spirits of wine, or alcohol, to the suspected honey—seemed to us so simple as to be almost absurd. We have for several days had on hand honey from a certain source having the unmistakable flavor of glucose. So pronounced was it that we had not the least doubt in our own minds but that the honey was adulterated. After reading this glucose test, we immediately procured some alcohol and introduced a quantity of it to a small sample of the suspected article. A little stirring soon produced a milky-white appearance; and after a little there was quite a decided white precipitate, showing quite conclusively the presence of glucose that had manifested itself so clearly to the taste. Other doubtful samples—samples that we suspected from the taste—showed like results. Now, to make sure the test was reliable, we also procured a sample of basswood that we knew to be pure. We thought, if the introduction of alcohol into this produced a milky precipitate, this glucose test would be of no value. Upon putting the honey to the test, the alcohol had no perceptible influence upon it, and the honey remained as clear and limpid as before. We next tried a sample of genuine pure glucose.

The strong milky precipitate was more marked than in the mixtures of honey and glucose—just about what we would expect.

From all this incidental experimenting, we observed that glucose mixtures of honey, on being vigorously stirred, will show the presence of beautiful, almost spherical, globules or bubbles of air. The glucose in honey seems to have a peculiar faculty for involving a minute quantity of air, and holding it there for several days at a time. Indeed, the presence of these large bubbles is quite suspicious, and we believe we could tell honey with glucose mixtures, by the mere appearance. The strong glucose taste would then give us a double assurance. If this were then further corroborated by the alcohol test, what more should we need? True, we could not tell the exact *quantity* of glucose in the honey; but the offense is just as great, if we understand the law properly, whether a large of a small quantity of "the stuff" is used. As it would not be profitable to put in a small amount, it is presumable that, when the presence of glucose is shown by the tests already given, at least 50 per cent of the baser article would be put into the honey. A man who would be mean enough to adulterate would not stop at 25 per cent—he would put in 50 per cent or more to increase the profits.

Now, it seems to us that this alcoholic test is so simple that it will be exceedingly valuable to honey-buyers; and when it becomes noised abroad so that everybody knows about it, it will make mixers of glucose sufficiently careful so that they will either stop adulterating altogether with that article, or, if not, place them in a position for easy detection.

In the mean time we solicit samples of honey that taste bad. Send them by mail, marked with sender's name, put up in stout wooden boxes. The vial should be as large as possible, securely stoppered, and wrapped in paper inside the wooden package. We shall take pains to test thoroughly all samples submitted to us, and report confidentially to all those desiring information. If we have reason to believe they are adulterated, the facts will be placed in the hands of the manager of the Bee-keepers' Union. We would suggest, however, that all honey-buyers and commission houses acquaint themselves thoroughly with the tests already given, in order that they may be prepared to investigate and trace promptly all suspected honeys from doubtful sources. Perhaps we ought to state, that, in order to get the cloudy appearance from glucose mixtures and alcohol, the suspected honey should be *thoroughly* stirred for several minutes. If it is adulterated with corn syrup, the cloudy precipitate will very soon make itself manifest.

Would-be adulterators have tried to cling to the hope that chemists can not detect glucose adulterations; but that hope is now gone, or it had better "be gone" very soon, for the Bee-keepers' Union, we hope, will very soon lay its heavy hand upon—well, we are not going to tell.

P. S.—If we understand matters correctly, chemists have long used the alcoholic test for showing the presence of glucose. It is only one of the means they employ, the result being verified by several other tests well known to them.

Later.—After writing the above, the *Evening Star*, published at Steubenville, Ohio, came to hand containing some startling statements to the effect that one of our old correspondents, J. A. Buchanan, of Holliday's Cove, W. Va., had not only been selling, for a year or so back, honey adulterated with glucose, but that he actually pleaded guilty when the inspector for the State Food Commissioner took proceedings against him in court. The paper goes on to state that Mr. Buchanan was fined \$35.00 and

costs, which he paid, and begged, "For God's sake, keep it out of the papers." We have always regarded Mr. Buchanan as not only a reliable correspondent, but an honest man, and we are scarcely able to credit the report. We have written to him and to the editor of the *Evening Star*, for further facts. We should be glad also to receive light from other sources. In our issue for April 1, 1892, we published an article from Mr. Buchanan, relative to selling extracted honey. One of the paragraphs is as follows:

As we sell honey in every town and city within quite a distance of us, we see much of the honey-markets. Within the last two years many city packing-houses have gone into the business of putting honey in tumblers and bottles. Some of this we find to be good pure honey; but for the most part it is a glucose mixture surrounding a small piece of comb honey. Does this honey, or stuff, detract any from our sales of choice honey? We think not; in fact, we are of the opinion that we sell more honey because of this adulterated stuff.

We thought nothing of this at the time; but if Mr. Buchanan has been guilty of adulterating honey, as alleged, it may explain his reasons for writing that paragraph.

We sincerely hope that the statement in the *Star* may prove to be untrue; for if it is coming to such a pass that bee-keepers themselves are beginning to adulterate, and have been doing so for a year or so back, we are in a bad plight indeed. We can not believe that more than one bee-keeper, or at most two, have been engaged in this sort of business; at all events, we shall spare no pains to probe to the bottom the alleged reports in both cases; for it has been hinted around of late that another bee-keeper has been up to the same business; and some facts that have been coming to light rather lend color to the reports. The fact is, dear readers, too many have been sailing under the impression that adulterations with glucose could not be detected. This is now a most mischievous error, and should be corrected at once. It may be that the knowledge that glucose is now easily detected will prevent many from beginning the vile practice, and at the same time cause others to cease altogether who have been so engaged.

#### SWEET CORN FOR CANNING.

There has been so much surprise expressed in regard to the excellent quality of the canned green corn, mentioned on page 232 of our last issue, that we have asked friend Cummins to tell us what kind it is, and how he grows it. Here is his reply:

We had the field I drove you through (when in rye) all in sweet corn last year, planting it the last days of June, after plowing under that crop of rye. The yield was over 4 tons to the acre, which was large, considering the late planting. The crops of sweet corn the farmers raise for us seldom reach 4 tons—averaging about 2½. We usually average, where we planted in May or very early in June, about 5 tons per acre. Last season was quite favorable for late planting. We had nice sweet corn, right from our garden, on our table until into November. Prof. Green, of the experiment farm, was here in November, and expressed his great surprise at eating sweet corn, right from the stalk, at that time of the year. We use Stowel's Evergreen corn; and when we do not grow our own seed we buy of C. S. Clark, Wake-man, Ohio. We have always found his seed reliable. The growth of the corn has much to do with the quality. On rich land that will grow 4 to 5 tons of good ears to the acre, the corn is much better than that grown on poor land.

D. CUMMINS.  
Conneaut, O., March 23.

Friend C., if you had told us how many bushels of corn make a ton we should have known more about it. I will say to our readers, that the ground mentioned had been manured with the refuse from the tomatoes from the canning-

factory—that is, in spots; and I did not consider the rye any thing remarkable, except where this tomato pomace had been scattered. I quite agree with the statement that corn grown on very rich ground is very much sweeter and nicer than that raised on poor soil. This is an encouragement for high-pressure gardening and farming. You not only get a larger crop, but it is finer-looking, and of decidedly better quality for the table.

#### THE TIMBRELL STRAWBERRY.

Most of you have probably noticed how much this has been boomed by the *Rural New-Yorker*. Probably many of you will give it a trial. We have five plants growing in that new greenhouse, and will have enough more to make a dozen. The problem is going to be, how many good strong plants can I secure before freezing weather comes again, from one dozen plants in the spring? I expect them to cover a big piece of ground.

## SPECIAL NOTICES.

#### LABEL AND JOB-PRINTING CATALOGUES.

Our supply of label catalogues was exhausted a few weeks ago; and, owing to the crowd of work in our job-printing department, we have not been able yet to print a new supply. We hope to get at it soon, and intend to combine the label and rubber-stamp catalogues in one. It may be a month or six weeks before these price lists are completed, and we would, therefore, ask your indulgence for a time. All applications are on file to send the catalogues to our friends as soon as ready.

#### FREEMAN POTATOES.

So far as I am informed, this potato at the present time stands at the head of the list; that is, it possesses more desirable qualities, all together, than any other potato before the world. Through the kindness of some of our subscribers, we have been enabled to get hold of six barrels. While they last, we will furnish them as follows: 1 lb. by mail, 40 cts.; 3 lbs. by mail, \$1.00; 1 lb. by express or freight to be shipped with other goods that you may order, 15 cts.; 1 peck, \$1.00; 1 bushel, \$3.00; 1 barrel, containing 11 pecks, \$6.50. Potato-eyes from the Freeman potato, postpaid by mail, 20 cts. for 10; \$1.25 per 100. Terry will plant Freeman potatoes, and no other, this present season.

#### PRIZE-TAKER ONION-SETS.

Quite a good many have asked the question, "Which would give us onions quickest—sets or plants?" In order to settle the question, we have purchased a bushel of Prizetaker onion-sets; and any one else who cares to test the matter can do so. The sets are small-sized, so you get about 175 in a quart. At this price, the plants at \$1.00 per 100 would be rather the cheapest. Sets, however, may be put in the ground a little sooner than it would do to take the plants out of the hot-beds or cold-frames. Price of sets, per quart, 30 cts.; peck, \$2.00. If wanted by mail, add 10 cts. additional per quart for postage.

#### THOSE CANNED IGNOTUM TOMATOES, CANNED PUMPKINS, ETC.

The tomatoes are all sold out. In fact, at the very time I offered them to the readers of GLEANINGS for \$1.00 a dozen they were worth \$1.15 at wholesale. So much for not reading the papers and keeping posted. As a matter of course, we are all sold out. We can, however, furnish canned pumpkin, put up by friend Cummins, the man who tells us about that extra nice corn, in previous column, for 90 cts. per dozen; and for a case of two dozen, shipped direct from the factory, we will make the price only \$1.50. Of course, this is subject to change, without notice.

#### PARSNIP SEED AT A VERY LOW PRICE.

It is a shame that the world is not better supplied with parsnips, while they can be grown so cheaply, and while it is also true that it is a crop that does not have to be harvested. You can take them in the fall, and sell them if you choose, or you can put